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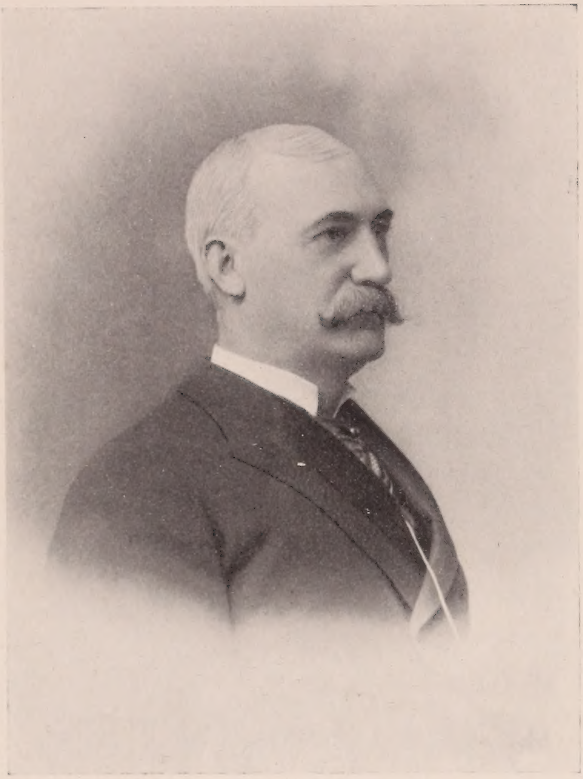

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President of The Brooklyn Pathological Society,
1899–1900.

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THE

Brooklyn Medical Journal

PUBLISHED MONTHLY

BY THE

Medical Society of the County of Kings.

JOSEPH H. RAYMOND, M.D.,
EDITOR IN CHIEF.

F. D. BAILEY, M.D.,
BUSINESS MANAGER.

ASSOCIATE EDITORS:
WM. BROWNING, M.D., DAVID MYERLE, M.D.,
CHARLES DWIGHT NAPIER, M.D.

VOLUME XIV.

JANUARY-DECEMBER, 1900.

MEDICAL SOCIETY OF THE COUNTY OF KINGS,
Brooklyn, N. Y.

ROONEY AND OTTEN
PRINTING CO.
NEW YORK

INDEX TO VOLUME XIV.

Abdominal Section. L. G. Baldwin.................467, 673
Achylia Gastrica. H. W. Lincoln................. 1
Adenitis. F. J. Shoop................. 325
Adenoids. S. H. Lutz................. 30
" Effects of, on the Ear. W. C. Braislin................. 520
" Pathology and Etiology. J. Wright................. 511
" Symptomatology of. H. Arrowsmith................. 515
" Treatment of. T. R. French................. 523
Ager, L. C. Typhoidal Ulcer of Intestines................. 324
Air Embolism................. 696
Alabama Medical Journal................. 537
Alcoholism. L. J. Morton.................362, 374
Alderton, H. A. Cholesteatomatous Otitis................. 854
" " " Epithelioma of Auricle................. 132
" " " Hyperostosis of Ossicles................. 569
" " " Static Goniometer................. 373
Alleman, L. A. W. Artificial Illumination................. 907
" " " " Recurrent Oculo-Motor Paralysis................. 499
American Medical Association................. 375
Aneurism of Aorta. W. A. Payne.................49, 139
Angeio-Neurotic Œdema. J. M. Winfield................. 464
Anthrax. W. F. Campbell................. 783
Aorta, Aneurism of. W. A. Payne.................49, 139
Appendicitis. A. H. Bogart................. 506
" R. S. Fowler................. 324
" G. Wackerhagen................. 699
" R. W. Westbrook................. 101
Appendix, Excision of. A. T. Bristow................. 786
Arrowsmith, H. Adenoids................. 515
Artificial Illumination. L. A. W. Alleman................. 907
Astragali, Excision of. L. S. Pilcher................. 93
Atmokausis................. 284, 696
Axillary Artery, Stab Wound of. C. H. Terry................. 386

Babcock, E. H. Common Communion Cup................. 216
Bacteriological Examination of Public Water Supplies. E. H. Wilson. 974
Baldwin, L. G. Abdominal Section.................467, 673
" " " Pus Kidney................. 114
Bartlett, H. L. Biographical Sketch of John Cargill Shaw, M.D...... 259
" " " " " " Teunis Schenck, A.B., M.D... 196
" " " Medical Faculty as Factors in History................. 751
Bartley, E. H. Cow's Milk................. 338
" " " Scarlet Fever................. 194
" " " Urticaria................. 194

Belcher, W. N. Etiological Factors in Rheumatism 422
Berry, Abraham J. Biographical Sketch of. W. Schroeder 126
" " " Portrait of February
Biliary Caculus. E. A. Day 498
Biographical Sketches.
  Abraham J. Berry, M.D. W. Schroeder 126
  Willard Parker Bowser, M.D. W. Schroeder 64
  Brooklyn Anatomical and Surgical Society. W. Schroeder 62
  William Webb Browning, A.M., LL.B., M.D. W. Schroeder 967
  Cadwallader, Colden, M.D. 533
  Robert Francis Cunnion, M.D. W. Schroeder 630
  Eugene A. Groux, M.D 388
  Joseph Hill Hunt 195
  Speakers at Jenner Centennial. W. Schroeder 194
  John Jones, M.D 473
  James Little Kortright, M.D. W. Schroeder 124
  James Lawrence Little, M.D. W. Schroeder 886
  Albert J. Lyman, D.D 883
  St. Clair McKelway, A.M., LL.D 195
  George McNaughton, M.D 194
  Frank Stephen Milbury, M.D. W. Schroeder 968
  Aaron Edgerton Peck, M.D. W. Schroeder 626
  William Pepper, M.D., LL.D 194
  Henry Codman Potter, A.M., D.D., LL.D 194
  Presidents Brooklyn Medical Society 468
  Teunis Schenck, A.B., M.D. H. L. Bartlett 196
  Julius Ernest Schroeder, M.D 387
  John Cargill Shaw, M.D. H. L. Bartlett 259
  Alexander Johnston Chalmers Skene, M.D., LL.D. W. Schroeder 704
  Gustav Schmetzer, Ph.G., M.D. W. Schroeder 299
  William Henry Welch, A.B., M.D., LL.D 195
  Charles E. West, M.D., LL.D., P.D. W. Schroeder 556
Bladder, Ectopy of 27
" Rupture of R. W. Westbrook 102
Blaisdell, S. C. Head Injuries 32, 243
Bogart, A. H. Appendicitis 506
" " " Bow-legs 876
" " " Littré's Hernia 137
Bow-legs. A. H. Bogart 876
Bowser, Willard Parker. Biographical Sketch of. W. Schroeder 164
" " " Portrait of January
Braislin, W. C. Adenoids 520
" " " Empyema of Frontal Sinus 395
" " " Necrosis of Ossicles 569
Breast, Non-Malignant Tumors of. W. B. Brinsmade 899
Brinsmade, W. B. Non-Malignant Tumors of Breast 899
Bristow, A. T. Carcinoma of Larynx 567
" " " Cholecystotomy 876
" " " Excision of Appendix 786
" " " Intestinal Obstruction 318

Bristow, A. T. Laryngectomy 772
" " " Sarcoma 814
" " " Surgical Side of Rheumatism 427
" " " Tenorrhaphy 782
Brooklyn Anatomical and Surgical Society. W. Schroeder.......... 62
" " " " " Portraits of Presidents of..January
" Gynecological Society. Officers for 1900................. 37
" " " Proceedings of....33, 114, 128, 189, 458
" *Medical Journal,* Associate Editors of.................. 468
" " Society. W. Schroeder.......................... 468
" " " Portraits of Presidents of...................June
" Pathological Society. Officers and Committees, 1899-1900.. 39
" " " Officers for 1900-1901.............. 998
" " " President's Address.............40, 994
" " " Proceedings of..40, 209, 301, 395, 477, 563, 721, 803, 889, 972
" " " Secretary's Report 57, 996
" Pediatric Society, Organization of....................... 124
" " " Proceedings of...193, 295, 387, 465, 539, 703, 966
" Society for Neurology, Officers for 1900................. 124
" " " " Proceedings of, 372, 374, 464, 619, 788, 958
" Surgical Society, Proceedings of.....93, 379, 540, 698, 772, 874
Browning, William Webb, A.M., LL.B., M.D., Biographical Sketch of. W. Schroeder 967
" " " Portrait of..........................December
Brundage, A. H.. 561
Brush, A. C. Traumatic Sclerosis.......................... 788
" " Effects of High-Tension Electrical Currents........... 958
" G. W. Common Communion Cup.......................... 214
Bubonic Plague 180
Bunn, A. C. Common Communion Cup.......................... 230
Butler, G. R. Varieties of Rheumatism.......................... 413
" W. E. Acute Urethritis 32, 272

Campbell, W. F. Radical Treatment of Hemorrhoids.............. 352
Cancer. H. T. Hotchkiss 621
" of Colon. M. Figueira.......................... 786
" " Rectum. L. S. Pilcher 546
" " Uterus 771
Carbolic Acid, Death from.......................... 177
Carcinoma of Breast. J. E. Herman.......................... 310
" " Cecum. G. R. Fowler.......................... 136
" " Larynx. A. T. Bristow.......................... 567
" " Liver. W. A. Payne.......................... 325
Cardona, L. J. Muscular Rupture.......................... 30
Cataract, Congenital. H. P. de Forest.......................... 117
" Extraction. H. P. de Forest.......................... 181
Census of 1900.. 957
Chadwick, James Read, A.M., M.D., Biographical Sketch of........ 884
" " " " " Portrait of............ November

Chapman, W. L. 30
Chase, C. Assistant Editor of *New York Lancet* 88
" " Progress in Gynecology 285, 769
" W. B. Editor of *New York Lancet* 88
" " Progress in Gynecology 285, 769
Chidwick, John P., Rev., U. S. N., Biographical Sketch of 885
" " " " " Portrait of .... November
Cholecystitis. H. B. Delatour 852
Cholecystotomy. A. T. Bristow 876
Cholelithiasis. M. Figueira 852
Cholesteatomatous Otitis 854
Chorea Gravidarum 284
Clark, R. Fibroma of Uterus 54
Clarke, S. G. Foreign Bodies in Esophagus 987
Clavicle, Fracture of. H. T. Peck 30
Claw-hand Deformity. G. R. Fowler 379
Clayland, J. M. Landry's Paralysis 313
" " Pneumonia 587
Clinical Society of Bushwick and East Brooklyn Dispensary, Organization of 29
Clothing of Infancy. W. M. Hutchinson 465
Cochran, H. L. Multiple Amputations 874
Colden, Cadwallader, Biographical Sketch of. W. Schroeder 533
" " Portrait of .... September
Collins, B. C. Tubercular Meningitis 30
Colostomy 23
Combes, R. C. F. Legal Restraint in Treatment of Disease 573
Common Communion Cup 209, 282
Conjunctival Sac, Bacteriology of. P. C. Jameson 793, 839
Cooper, John, M.D. Portrait of .... July
Copyright 121
Coroner, Latitude of 121
Cow's Milk. E. H. Bartley 338
Cox, C. N. Middle-Ear Suppuration 857
Croup. B. Edson 295
Cunnion, Robert Francis, M.D. Biographical Sketch of. W. Schroeder. 630

Day, E. A. Common Communion Cup 209, 498
Dedication of New Library Building 535
" " " " " W. Schroeder 882
" " " " " Portraits of Speakers at .. November
Delatour, H. B. 852
" " " Dermoid Cyst of Ovary 494
Development, Arrest of 460
Dionin 625, 698
Diphtheria. H. N. Read 539
Diplococcus Intracellularis Meningitidis. J. B. Thomas 141
Dispensary, Bushwick and East Brooklyn, Organization of Clinical Society 29
" Experiences. F. S. Kennedy 121, 327

Dispensary Law 21
Drunkards. Care of........ 792
Dudley, W. F. Neoplasm of Velum Palati 981
Duhrsen, Vaporizing Apparatus of. J. O. Polak........ 189
Dunning, Z. F. Ectopic Pregnancy........ 736

Echinococcus Cyst. G. R. Fowler........ 380
Ectopy of Bladder 27
Edson B. Croup........ 295
Electric Currents, Effects of. A. C. Brush........ 958
Elfstrom, C. E. Serum Treatment of Pneumonia........ 603
Elliott, R. M. Long Island State Hospital........32, 169
Empyema of Frontal Sinus. W. C. Vraislin 395
Endometritis, Malignant. J. M. Van Cott........ 43
Epithelioma of Auricle, H. A. Alderton........ 132
" " Thumb. H. G. Webster........ 904
Esophagus, Foreign Bodies in. S. G. Clarke........ 987
" Rupture of. W. A. Payne........ 990
Exostosis. E. A. Hatch........ 30
Eye, Injury of. P. C. Jameson 84

Face, Wounds of. W. C. Wood........ 698
Ferris, E. D. Tubal Gestation........ 843
Fibroma of Uterus. R. Clark........ 54
" " " G. G. Hopkins........ 730
Figueira, M. Cancer of Colon........ 786
" " Cholelithiasis........ 852
" " Sarcoma of Axilla........ 187
Fischer, C. S........ 20
Foote, L. N........ 20
Forest, H. P. de. Congenital Cataract........ 117
" " " " Common Communion Cup........ 223
" " " " Pseudo-Leukemia........ 477
" " " " Intestinal Perforation........ 992
" " " " Report as Secretary of Pathological Society 996
Fowler, G. R. Carcinoma of Cecum........ 136
" " " Claw-hand Deformity 379
" " " Echinococcus Cyst 380
" " " Stab-wound of Neck 380
" " " Surgery of Liver and Biliary Passages........ 926
" " " Suture of Musculo-Spiral Nerve........379, 382
" " " " " Ulnar Nerve 383
" R. S. Appendicitis 324
" " " Contracted Gall-Bladder 497
" " " Extra-uterine Pregnancy 164
" " " Hallux Valgus........ 48
" " " Round Ulcer of Stomach 323
" " " Tumors of Liver 943
Fracture of Humerus. W. A. Payne........ 325
" " Vertebra. W. A. Payne 325

French, T. R. Adenoids.. 523
Friedrick's Ataxia. W. H. Haynes............................. 619
Fuller, G. W. Purification of Brooklyn Water Supply.............. 853

Gall-bladder, Contracted. R. S. Fowler............................ 497
Gangrene of Foot. G. Wackerhagen................................ 702
" " Lower Extremities. W. Maddren........................ 13
" " Lung 23
Glandular Extracts. C. R. Hyde................................ 461
Glaucoma. E. W. Wright 404
Goniometer, Static. H. A. Alderton 373
Gonorrhea 769
Goodrich, C. H. Diffuse Infective Peritonitis...................... 145
Gould, George Milbry, A.M., M.D. Biographical Sketch of.......... 883
" " " " " Portrait of ....November
Grattage, New Method of. P. C. Jameson.......................... 963
Gray, Landon Carter, M.D. Portrait of........................October
Groux, Eugene A., M.D., Biographical Sketch of.................... 388
" " " " Sternum of ....May
Gynecology, Progress in. W. B. Chase and C. Chase............285, 769

Haffkine Prophylactic Against Plague.............................. 766
Hallux, Valgus. R. S. Fowler 48
Hancock, J. C. Paralysis of Ocular Accommodation................ 410
" " " Trachoma 962
Harrigan, J. Typhoid Fever 65
Hatch, E. A..... 30
" " " Exostosis 30
Haynes, W. H. Friedrick's Ataxia................................ 619
Head Injuries. S. C. Blaisdell............................32, 243
Hematuria. H. T. Peck 30
Hemorrhoids. W. F. Campbell 121, 352
" Excision of 28
Henry, Charles C. Portrait of........ ....January
" " " Placenta Succenturiata 56
" " " President's Address........ ....40, 994
Herman, J. E. Carcinoma of Breast 310
" " " Influenza 486
" " " Human Embryo 733
Hernia, Inguinal. R. W. Westbrook.............................. 97
" " Strangulated. W. C. Wood 784
" Ventral " R. W. Westbrook.......................... 96
Hill, H. H. Biology of Brooklyn Water-Supply...................... 853
Historical Committee. Report of. W. Schroeder 467, 626
Hodges, E. Pseudo-Ethical Proprietary Preparations................ 794
Homeopathic Hospital. Transfer to New York...................89, 242
Hoople, H. N. Middle-Ear Suppuration............................. 857
" " " Nasal Reflex Neuroses.... 803
" " " Orbital Cellulitis 824
" " " Tooth From Right Nares............................ 403

Hopkins, G. G. Fibroma of Uterus.................................. 730
“ “ “ Hematoma of Uterus.............................. 731
“ “ “ Foreign Bodies in Stomach......................... 990
Hospital Evil, Practical Reform. A. C. Jacobson.................... 237
“ “ “ “ of One....... 281
Hotchkiss, H. T. Cancer....... 621
Humerus, Dislocation of. L. S. Pilcher............................ 384
Hunt, Joseph Hill, B.S., M.D. Biographical Sketch of.............. 195
Hutchinson, W. M. Clothing of Infancy 465
“ “ “ Epidemic of Measles 194
Hyde, C. R. Intraligamentous Cyst 458
“ “ “ Treatment by Glandular Extract 461

Influenza. J. E. Herman 486
Ingalls, J. W. Iritis........... 823
“ “ “ Report of Progress in Ophthalmology 181, 625
Inebriate, Care and Treatment of................................. 465
Insane Women, Operations on............ 770
Intestinal Obstruction. A. T. Bristow............................ 318
“ “ J. D. Sullivan 318
“ “ R. W. Westbrook 99
“ Perforation. H. P. de Forest 992
Intestine, Resection of. R. W. Westbrook......................... 95
Intestines, Typhoidal Ulcers of. L. C. Ager....................... 324
Intraligamentous Cyst. C. R. Hyde................................ 458
Intussusception. J. D. Sullivan 318
Iodoform Treatment of Enlarged Glands. H. C. McLean............. 387
Iritis. J. W. Ingalls 823

Jacobi, Abraham, M.D., LL.D. Biographical Sketch 884
“ “ Portrait of ....November
Jacobson, A. C. Practical Reform of One Hospital Evil............ 237
Jameson, P. C. Bacteriology of Conjunctival Sac 793, 889
“ “ “ Injury of Eye 84
“ “ “ New Method of Grattage 963
Jaundice. H. T. Peck 30
Jenner Centennial, Speakers at. W. Schroeder..................... 194
“ “ “ “ Portraits of ....March
Jewett, C. Obstetric Surgery of Pelvic Contraction................ 739
“ “ Report of Progress in Obstetrics........................ 283
“ F. A............. 30
Jones, John, M.D. Biographical Sketch of......................... 473
“ “ “ Portrait of ....June

Kennedy, F. S....... 30
“ “ “ Dispensary Experiences 327
Kent, R. J. Common Cummunion Cup................................. 230
Kew, C. L. Rectal Injections in Pertussis........................ 793

Kessler, G. L. Thermærotherapy in Rheumatism.................... 436
Kortright, James Little, M.D. Biographical Sketch of. W. Schroeder. 124
" " " " Portrait of ....February

Laborde's Method 696
Landry's Paralysis. J. W. Clayland 313
Langdon, F. W. Nervous Disease 657
Laryngectomy. A. T. Bristow 772
Lead Amblyopia 183
Legal Restraint in Treatment of Disease. R. C. F. Combes.......... 573
Lewis, D.... 22
Lincoln, H. W. Achylia Gastrica...... 1
Little, James Lawrence, M.D. Biographical Sketch of. W. Schroeder. 886
" " " " Portrait of ....October
Littre's Hernia. A. H. Bogart 137
Liver, Abscess of. W. C. Wood 184, 936
" Surgery of. G. R. Fowler 926
" Tumors of. R. S. Fowler 943
" Traumatisms of. J. P. Warbasse 851
" Ultimate Morphology of. A. Murray 961
" " " " J. M. Van Cott.................. 961
" " " " E. H. Wilson..................... 961
Long Island Medical Society, Proceedings of...............621, 793, 962
" " State Hospital. R. M. Elliott 32, 169
Lung, Gangrene of 23
Lutz, S. H. Adenoids 30
" " " Deviated Nasal Septum 965
" " " Middle Ear Suppuration 867
" " " Sarcoma of Mastoid 130
Lyman, Albert J., D.D. Biographical Sketch of..................... 883
" " " " Portrait of ....November

McKelway, St. Clair, A.M., LL.D. Biographical Sketch of........... 195
McLean, H. C. Treatment of Enlarged Glands........................ 387
McNaughton, George, M.D. Biographical Sketch of................... 194
" " " Tubercular Peritonitis 834
Maddren, William, M.D. Biographical Sketch of..................... 885
" " " Gangrene of Lower Extremities 13
Malaria, Pediatric. Dr. William A. Northridge...................... 966
Mastitis. G. A. Williams...... 902
Measles, Epidemic of. W. M. Hutchinson............................ 194
Medical Faculty as Factors in History. H. L. Bartlett............467, 751
Medical News. C. D. Napier..178, 197, 300, 391, 474, 558, 631, 713, 796, 887, 969
" Society of the County of Kings, Dedication of New Building. 535
" " " " " " " First Building, Picture of...May
" " " " " " " Memorial Meeting of....... 751
" " " " " " " Meeting Places of.......... 389
" " " " " " " Officers for 1900........... 123

Medical Society of the County of Kings. Proceedings of..30, 119, 289, 376. 466, 537, 851, 852, 960
" " " " " " " Section, Laryngology, Rhinology and Otology........ 854
" " State of New York..............................178, 280
Meningitis, Tubercular. B. C. Collins 30
Middle Ear Suppuration; Anatomy. H. N. Hoople 857
" " " Etiology, Pathology, and Symptomatology.. 861
" " " Treatment. S. N. Lutz................... 867
Milbury, Frank Stephen, M.D., Biographical Sketch of. W. Schroeder. 968
" " " " Portrait of ....December
Miller, L. H. Rhinolith....... 398
Morton, L. G. Alcoholism 362, 374
Multiple Amputations. H. L. Cochran 874
" Infection of Heart and Liver by Gas-forming Bacillus. A. Murray 898
Murray, A. Multiple Infection of Heart and Liver by Gas-forming Bacillus 898
" " Ultimate Morphology of Liver 961
Musculo-spiral Nerve, Suture of. G. R. Fowler.................... 379
Myopia 697

Napier, C. D. Medical News..178, 197, 300, 391, 474, 558, 631, 713, 796, ...887, 969
Nasal Reflex Neuroses. H. N. Hoople............................. 803
" Septum, Deviated. S. H. Lutz............................... 965
Necrosis of Palate. W. C. Wood................................... 183
Neoplasm of Velum Palati. W. F. Dudley.......................... 981
Nervous Disease. F. W. Langdon......... 657
New Books:
  Abdominal Brain. B. Robinson 208
  American Year-Book of Medicine and Surgery. G. M. Gould..200, 394
  Anatomy. J. B. Deaver 303
    " Essentials of. Charles B. Nancrede and J. B. Brockway.. 200
    " of Central Nervous System. L. Edinger................. 800
    " Nervous System. H. C. Gordinier...................... 207
  Annual and Analytical Cyclopedia. C. E. de M. Sajous.......394, 799
  Christian Science. W. A. Purrington............................ 562
  Diagnosis, Essentials of. S. C. Cohen and A. A. Eshner......... 799
  Electro-Hemostasis. A. J. C. Skene............................ 307
  Embryology. J. C. Heisler...................................... 203
  Eye, Diseases of. G. E. De Schweinitz......................... 206
    " " " G. M. Gould and W. L. Pyle................. 308
    " " " O. Haab... 308
    " " " F. C. Donders................................ 201
    " Refraction of. J. Thorington............................. 394
  International Medical Annual. E. B. Treat and Co.............. 798
  Love and Its Affinities. G. F. Butler.......................... 306
  Materia Medica. R. Bartholow................................... 306
    " " G. F. Butler 208

Medical Chemistry. L. Wolff.......... 201
" Treatment. N. Tirard.......... 799
Medicine, Progressive. H. A. Hare.......... 393
Nose and Throat, Diseases of. D. B. Kyle.......... 305
Nurses, Directory of. M. L. Longeway.......... 208
" Hand-Book for, T. K. Watson.......... 799
Pathology. A. Stengel.......... 302
Pelvic Inflammations. W. R. Pryor.......... 206
Physical Diagnosis. A. M. Corwin.......... 208
Physicians' Manual. Parke, Davis & Co.......... 307
Physiology. W. S. Hall.......... 304
Practice of Medicine. J. M. Anders.......... 208
" " " J. M. Bruce.......... 201
" " " Twentieth Century.......... 204
Skin, Diseases of. H. W. Stelwagon.......... 305
Surgery. R. Park.......... 205
" International Text-Book of. J. C. Warren and A. P. Gould.......... 633
" Mechanics of. C. Truax..........202, 302

New York Lancet.......... 88
New York State Medical Association.......... 87

Obstetrics, Progress in. C. Jewett.......... 283
Ocular Accommodation, Paralysis of. J. C. Hancock.......... 410
" Massage.......... 181
Oculo-motor Paralysis, Recurrent. L. A. W. Alleman.......... 499
Olecranon, Fracture of. T. B. Spence.......... 782
Ophthalmology, Report of Progress in. J. W. Ingalls,..........181, 625
Orbital Cellulitis. H. A. Hoople.......... 824
Ossicles, Hyperostosis. H. A. Alderton.......... 569
" Necrosis of. W. C. Braislin.......... 569
Ovary, Cystoma of. F. A. Wunderlich.......... 732
" Hematoma of. F. J. Shoop.......... 731

Palmer, E. Carcinoma of Uterus.......... 193
Payne, W. A. Aneurism of Aorta..........49, 139
" " " Absence of Trachea.......... 568
" " " Carcinoma of Liver.......... 325
" " " Fracture of Humerus.......... 325
" " " " " Vertebra.......... 325
" " " Hyperplasia of Thyroid Gland.......... 323
" " " Rupture of Esophagus.......... 990
" " " " " Peritoneum in Parturition.......... 738
Peck, Aaron Edgerton, M.D. Biographical Sketch of. W. Schroeder.. 629
" " " " Portrait of..........August
" H. T. Fracture of Clavicle.......... 30
" " " Hematuria.......... 30
" " " Jaundice.......... 30
Pelvic Contraction, Obstetric Surgery of. C. Jewett.......... 730

Pepper, William, M.D., LLD. Biographical Sketch of. 194
Peritonitis, Diffuse Infective. C. H. Goodrich. 145
" Tubercular. G. McNaughton. 834
Pertussis, Treated by Rectal Injection. C. L. Kew. 793
Pilcher Lewis Stephen, M.D., LLD. 534
" " " " Biographical Sketch of 883
" " " " Cancer of Rectum. 546
" " " " Dislocation of Humerus. 384
" " " " Excision of Astragali. 93
" " " " Portrait of . . . . November
Placenta Succenturiata. C. C. Henry. 56
Plague, Bubonic 180, 766
Pneumonia. J. M. Clayland. 587
" Serum Treatment of. C. E. Efstrom. 603
" Treatment of. H. F. Williams. 594
" " by Creosotal. C. F. Stokes. 608
Portraits:
Abraham J. Berry, M.D. . . . . February
Henry Dwight Bliss, M.D. . . . . August
Willard Parker Bowser, M.D. . . . . January
Wiliam Webb Browning, A.M., LL.B., M.D. . . . . December
James Read Chadwick, A.M., M.D. . . . . November
Rev. John P. Chidwick, U. S. N. . . . . "
Cadwallader Colden, M.D. . . . . September
John Cooper, M.D. . . . . July
George Milbry Gould, A.M., M.D. November
Landon Carter Gray, M.D. . . . . October
Charles C. Henry, M.D. . . . . January
Abraham Jacobi, M.D., LL.D. . . . . November
James Little Kortright, M.D. . . . . February
James L. Little, M.D. . . . . October
Rev. Albert J. Lyman, D.D. . . . . November
William Maddren, M.D. . . . . "
Frank Stephen Milbury, M.D. . . . . December
Aaron Edgerton Peck, M.D. . . . . August
Lewis Stephen Pilcher, A.M., M.D., LLD. . . . . November
Presidents of Brooklyn Anatomical and Surgical Society. . . June
John Cargill Shaw, M.D. . . . . April
Alexander Johnston Chalmers Skene, M.D., LL.D. . . . September
Speakers at Dedication of New Library Building. . . . . . November
Gustave Schmetzer, M.D. . . . . April
Charles E. West, M.D., LL.D., P.D. July
Frank Eliot West, A.M., M.D. . . . . November
Polak, J. O. Arrest of Development. 460
" " Hernia of Umbilical Cord. 52
" " Vaporizing Apparatus of Duhrsen. 189
Potter, Henry Codman, A.M., M.D., LL.D. Biographical Sketch of. . 194
Pregnancy, Ectopic. Z. F. Dunning. 736
" " W. Waterworth. 734
" Extra-uterine. R. S. Fowler. 164

Pregnancy, Human Embryo of. J. E. Herman...................... 733
" Occurring with Myofibromata. A. J. C. Skene.......... 722
" Rupture of Peritoneum. W. A. Payne...................... 738
Presidents of Brooklyn Anatomical and Surgical Society. Portrait of ....January
Pseudo-ethical Proprietary Preparations. E. Hodges.............. 794
" Leukemia. H. P. de Forest................................ 477
" " J. D. Sullivan....................................... 483
Puerperal Tetanus.. 283
Pus Kidney. L. G. Baldwin.. 114
Read, H. N. Diphtheria.. 539
" " Pediatric Malaria 966
Renal Calculus. J. R. Stivers.................................... 496
Retrobulbar Optic Neuritis 182
Rheumatism, Varieties of. G. R. Butler........................... 413
" (1) Bacteriology of. E. H. Wilson..................291, 419
" (2) Etiological Factors in. W. N. Belcher...........291, 422
" (4) Surgical Side of. A. T. Bristow................291, 427
" (3) Thermærotheraphy in. G. L. Kessler............291, 436
Rhinolith. L. H. Miller.. 398
Rupture, Muscular. L. J. Cordona................................. 30
Salpingitis. F. J. Shoop 533
Sarcoma. A. T. Bristow.. 814
" G. Wackerhagen 701
" of Axilla. M. Figueira.................................. 187
" " Mastoid. S. H. Lutz.................................. 130
" " Tibia. J. P. Warbasse................................. 110
Saunders, W. B. & Co.. 536
Scarlet Fever. E. H. Bartley..................................... 194
Schenck, Teunis, A. B., M.D., Biographical Sketch of. H. L. Bartlett. 196
" " " Portrait of ....March
Schmetzer, Gustave, Ph.D., M.D. Biographical Sketch of. W. Schroeder 299
Schroeder, Julius Ernest. Biographical Sketch of.................. 383
Schroeder, W. Biographical Sketches:
Abraham J. Berry, M.D.......................... 126
Willard Parker Bowser, M.D...................... 64
Brooklyn Anatomical and Surgical Society.......... 62
Brooklyn Medical Society......................... 468
William Webb Browning, A.M., LL.B., M.D........ 467
Cadwallader Colden, M.D.......................... 533
Robert Francis Cunnion, M.D..................... 630
John Jones, M.D.................................. 473
James Little Kortright, M.D...................... 124
James L. Little, M.D............................. 886
Frank Stephen Milbury, M.D...................... 968
Aaron Edgerton Peck, M.D......................... 629
Gustave Schmetzer, Ph.G., M.D................... 299
Alexander Johnston Chalmers Skene, M.D., LL.D... 704

Schroeder, W. Speakers at Jenner Centennial.................... 194
Charles E. West, M.D., LL.D., P.D............. 566
Dedication of New Library Building..........467, 626
Sclerosis, Traumatic. A. C. Brush................................ 788
Scorbutus. W. H. Seymour 703
Septometer. H. Wallace 856
Seymour, W. H. Scorbutus 703
Shaw, John Cargill, M.D. Biographical Sketch of. H. L. Bartlett.... 259
" " " " Portrait of ....April
Sheppard, J. E. Common Communion Cup......................... 220
Shoop, F. J. Adenitis.. 325
" " " Cystoma of Ovary 732
" " " Salpingitis...... .. ..5, 33
Skene, Alexander Johnston Chalmers, M.D., LLD................692, 721
" " " " " Biographical Sketch of. W. Schroeder........ 704
" " " " " Management of Pregnancy................ 722
" " " " " Portrait of.......September
" " " " " Resolutions of. L. I. C. H. Alumni Association. 712
Specialist, Division of Fee with General Practitioner................ 535
Spence, T. B. Fracture of Olecranon................................ 782
Spinal Anesthesia 956
Stab Wound of the Neck. G. R. Fowler.............................. 380
Sterility 285
Stivers, J. R. Renal Calculus...................................... 496
Stokes, C. F. Treatment of Pneumonia by Creosotal 608
Stomach, Diagnostic Methods in Diseases of.......................... 20
" Foreign Bodies in. G. G. Hopkins........................ 990
" Round Ulcer of. R. S. Fowler.......................... 323
Sullivan, J. D. Intussusception 318
" " " Pseudo-Leukemia.... 483
Surgery of Liver and Biliary Passages. G. R. Fowler................ 926

Temperature After Intra-Peritoneal Operations...................... 286
Tenorrhaphy. A. T. Bristow... 782
Terry, C. H. Stab Wound of Axillary Artery.......................... 386
Thomas, J. B. Diplococcus Intracellularis Meningitidis.............. 141
Throat and Nose, Malignant Growths of. J. Wright................ 563
Thyroid Gland, Hyperplasia of. W. A. Payne........................ 323
Tooth from Right Nares. H. W. Hoople............................. 403
Torticollis. W. C. Wood....... 825
Trachea, Absence of. W. A. Payne 568
Trachoma 697
" J. C. Hancock 962
Tubal Gestation. E. D. Ferris..................................... 843
Tuberculosis, Hospitals for Treatment of.........................22, 37
" Treatment of..... 24
Tuttle, A. S. Source and Limitations of Brooklyn Water Supply..... 853
Typhoid Fever. J. Harrigan... 65

Ulnar Nerve, Suture of.... 383
Umbilical Cord, Hernia of. J. O. Polak.... 52
Urethritis. W. E. Butler 32, 272
Urticaria. E. H. Bartley.... 194
Uterine Fibroids, Ligation for.... 285
Uterus, Cancer of.... 771
" Carcinoma of. E. Palmer.... 192
" Cystic Tumor of. G. Wackerhagen.... 699
" Fibroma of. G. G. Hopkins.... 731
" Hematoma of. G. G. Hopkins.... 731

Van Cott, J. M. Malignant Endometritis 43
" " " " Ultimate Morphology of Liver.... 961

Wackerhagen, G. Appendicitis.... 699
" " Cystic Tumor of Uterus.... 699
" " Gangrene 702
" " Sarcoma 701
Wallace, H. Septometer 856
Warbasse, J. P. Common Communion Cup.... 226
" " " Sarcoma of Tibia 110
" " " Traumatism of Liver.... 851
Ward vs. St. Vincent's Hospital.... 279
Water Famine in Brooklyn 88
" Supply of Brooklyn 467, 954
" " " " Biology of. H. W. Hill.... 853
" " " " Source and Limitations of. A. S. Tuttle. 853
" " " " Purification of. G. W. Fuller.... 853
Waterworth, W. Ectopic Pregnancy 734
Watson Library 961
Webster, H. G. Epithelioma of Thumb.... 904
Welch, William Henry, A.B., M.D., LLD.... 195
West, Charles E., M.D., LLD., P.D. Biographical Sketch of. W. Schroeder....536
" " " " " " Portrait of ....July
" Frank Eliot, A.M., M.D. Biographical Sketch of.... 885
" " " " " Portrait of ....November
Westbrook, R. W. Appendicitis.... 101
" " " Intestinal Obstruction 99
" " " Resection of Intestine 95
" " " Rupture of Bladder.... 102
" " " Strangulated Inguinal Hernia.... 97
" " " " Ventral Hernia.... 96
Williams, G. A. Mastitis.... 902
" H. T. Treatment of Pneumonia 594
Wilson, E. H. Bacteriology of Rheumatism 419
" " " Bacteriological Examination of Public Water Supplies. 974
" " " Ultimate Morphology of Liver.... 961
Winfield, J. M. Angeio-Neurotic Œdema.... 464
" " " Common Communion Cup.... 222
Wood, W. C. Abscess of Liver....184, 936

Wood, W. C. Neurosis of Palate 183
" " " Strangulated Inguinal Hernia 784
" " " Torticollis 825
" " " Wounds of Face 698
Wright, E. W. Glaucoma 404
" J. Adenoids 711
" " Malignant Growths of Throat and Nose 563
Wunderlich, F. W. Cystoma of Ovary 732

Yellow Fever in Cuba 955

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 1.
WHOLE No. 145.
BROOKLYN, N. Y., JANUARY, 1900.
Single copies 25 cents.
$2 a year, in advance.

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

ACHYLIA GASTRICA WITH REPORT OF TWO CASES.

BY H. W. LINCOLN, M.D.,
Clinical Assistant, New York Post-Graduate Medical School, Department of Diseases of the Stomach.

This condition is now generally conceded to be a disease; not a symptom.

Synonymous with the above name are used gastritis glandularis atrophicans, progressive atrophy of the stomach, anadenia ventriculi, etc.

In 1860 Flint advanced the opinion that some cases of anemia were dependent upon atrophy of the gastric glands.

According to Fenwick, in 1878, lesions were found after death supposed to have been caused by pernicious anemia and associated with atrophy of the gastric mucosa.

Achylia gastrica occurs, no doubt, frequently in company with pernicious anemia, many deaths due to the latter having been ascribed to the former. The former in and by itself does not cause death.

In 1886 Ewald first discovered by modern methods of diagnosis a case with total lack of gastric juice after repeated test-meal examinations.

In 1892, however, Einhorn proposed the name by which the malady is best known, *i. e.,* achylia gastrica. Martius described two varieties: primary or idiopathic, and secondary, dependent upon some pre-existing disturbance, pre-eminently chronic gastric catarrh.

In carcinoma we often find what might appear to be achylia, but on closer investigation pepsin and rennet are found, and lactic acid partially taking the place of HCl.

Frequently in nervous conditions temporary absence of gastric secretion presents These are the cases in which we obtain our best therapeutic results, there being no organic lesion. In pure complete achylia, however, there is no re-establishment of secretion.

Hemmeter claims this condition congenital in some instances. Very many people so afflicted enjoy life to the fullest extent, eating of everything in the way of food and never giving any history of digestive disturbance. Such is the case of the medical student spoken of by Hemmeter. He was repeatedly examined as to state of gastric secretion, invariably with negative results, and left college never knowing of its absence. He was exceptionally healthy and a hearty eater.

The pathology here is not extensive, comparatively few autopsies of achylic stomachs having been observed. Portions of gastric mucous membrane are frequently brought up with the tube, which indicate increase of interstitial connective tissue, together with atrophy of the gastric glands.

Some authorities hardly recognize the appearance of these membranous particles in this disease, while others assert that rarely is the tube introduced for diagnostic or therapeutic purposes without bringing up blood, together with particles of the tissue lining the stomach. The mucous membrane is here beyond doubt extremely vulnerable.

Subjectively, according to Einhorn, we have three classes of cases: I. With no symptoms, gastric or intestinal. II. All symptoms referable to the stomach. III. All symptoms referable to the intestines.

The first class of cases is rare. Most patients belong to Class II., in which the following are the usual symptoms: anorexia, bloating, gaseous eructations, feeling of oppression and tenderness over the epigastrium after eating, nausea and vomiting, headache. Constipation is the rule, sometimes alternating with diarrhea; strong aversion to meat and eggs; occasionally, intense thirst.

In the last class of cases, as is well known, obstinate diarrhea is the principal symptom; sometimes nausea and vomiting. In patients with diarrhea not yielding to treatment after a reasonable time, it is well to examine their gastric contents.

Objectively, as a rule, the stomach is not much altered as to size or location. Test-meal yields absence of hydrochloric acid, pepsin and rennet; mucus present in small quantity or not at all; roll appears as when swallowed; quantity of meal recovered is always small, and must frequently be withdrawn less than one hour after eating in order to get enough for analysis (Biedert, *Diätetik und Kochbuch*, 1895). Motility, therefore, is unchanged or hastened. Absorption is undisturbed.

Treatment consists in keeping up bodily nutrition and stimulating the gastric muscle. To attain the first object a full diet is positively indicated; meat sparingly, well cooked, thoroughly masticated; vegetables increased; bread and butter in generous quantity, *i. e.,* all the patient will tolerate. In cases with considerable gastric irritation five or six small meals in twenty-four hours act preferably to three ordinary ones. Here milk given according to the views of L. D. Bulkley works admirably. Under head of local stimulation lavage and intragastric electrization stand pre-eminent. Either one alone or in combination on alternate days, according to the individuality of the case, may be continued for a long time with no fear of ill effect.

As to medicinal treatment, many cases require none. Dilute hydrochloric acid, some good iron preparation, fluid extract condurango, tinct. nux vomica, arsenic in form of Fowler's solution, etc., are used as indicated. Pineapple-juice may be here very nicely substituted for hydrochloric acid. Calomel according to Allen Jones exerts good influence in rendering the intestinal canal antiseptic.

Achylia usually occurs after middle life. I here report two cases in persons under 30 years of age, Case I. belonging to Class II., Case II. to Class III.:

Case I.—Female, age 27, married; no children, no miscarriages; previous history good; has had endometritis and cystitis; family history fair; general appearance anemic; has lost good deal in weight during last few months; stomach trouble about eight years' standing; has always eaten and still does eat heartily of all kinds of food.

Symptoms.—Good deal of belching; foul taste; severe nausea but no vomiting; headache and vertigo; full sensation with pain in epigastric region comes on about one hour after eating and is sometimes relieved by belching; strong aversion to meat and eggs *of late.* Constipation is the rule; occasionally diarrhea. Appetite varies; sleep not disturbed; cough in morning until some mucus is expectorated.

Physical Examination.—Chest organs normal; liver and spleen normal; stomach a trifle low, not dilated; right kidney fallen to second degree; left kidney normal; some tenderness over the epigastrium; swallowing sound seven seconds; splashing sound easily produced.

Test-Meal.—Quantity small; roll undivided; color normal; odor only of roll; total absence of gastric juice. This condition was verified by three subsequent examinations. Urine contained neither albumin nor sugar.

Treatment.—Five small meals daily, composed as above outlined. Lavage daily for about ten days, less frequently for balance of two months. Dilute hydrochloric acid 20 minims in water one hour after meals. A tablet containing 10 minims each of Warburg's tinct., fld. ext. hydrastis and viburnum prunifolium, one night and morning. Improvement was prompt and progressive. Patient has gained in weight and feels perfectly well.

Case II.—Male, aged 28, unmarried; family history, free from tubercular taint; father died of nephritis; no serious previous illness; has complained for some five or six years of chronic diarrhea; was operated for fistula; passes large quantities of mucus; hemorrhoids frequently gave trouble; weakness and tired condition prevailed much of the time; only gastric symptoms were belching and slight nausea. Kind of food taken produced no effect; appetite good; sleep undisturbed.

Physical Examination.—Chest organs intact; stomach ptosed; splashing sound easily produced one finger's breadth below umbilicus; no tenderness over abdomen.

Test-Meal had to be expressed forty-five minutes after eating, then but small quantity could be obtained, which repeatedly revealed absence of gastric secretion.

Treatment in this case consisted simply of hydrochloric acid diluted, 30 minims, sipped with meals. Meat sparingly; vegetables increased; milk as spoken of above. After about two weeks, pineapple-juice was substituted for the acid. Patient gained rapidly; diarrhea ceased almost immediately, and at present he eats almost everything with no bad effects.

113 Hancock Street.

SALPINGITIS.

BY FREDERIC J. SHOOP, M.D.,
Associate Surgeon and Gynecologist to the Central Hospital and Polyclinic, Brooklyn.

Read before the Brooklyn Gynecological Society, October 6, 1899.

Inflammation of the Fallopian tube occurs most frequently during the active period of sexual life between the ages of 20 and 40. Over 60 per cent. of the cases occur in women who have borne children, and about 21 per cent. in women who have had one or more miscarriages. Fifty per cent. occur on the left side only, 32 per cent. to 35 per cent. on both sides, and 15 to 18 per cent. on the right side only.

It occurs as a very natural sequence of endometritis, and therefore its etiology is essentially identical with the etiology of that affection of the uterus, with the possible exception of those cases of tubercular inflammation following general tuberculosis, cases of metastatic growths from malignant disease of the ovary or adjacent structures, and cases of infection from typhoidal ulceration of the bowel or appendicular abscess.

The tube is composed of three coats: a serous coat, which is a reflexion of the peritoneum, covering only three-fourths of its circumference; a muscular coat, composed of two layers, the external layer of unstriped longitudinal fibers, the inner of circular fibers which are somewhat increased at the fimbriated extremity of the tube, forming a sort of sphincter surrounding the ostium abdominale, the fibers of both layers being continuous at the other extremity with those of the uterus; third, a coat of mucous membrane containing no glands, lined with cylindrical ciliated epithelium of the same kind and continuous with that of the superficial layer of the uterine mucosa,—at the other extremity the mucous membrane merges with the peritoneum. When we take into consideration this structure of the tube and its close anatomical relation to the uterus, it must be clear that when there exists an inflammation of the interior of the latter, there is very likely to be an extension of that inflammation to the mucosa of the tubes of like character and corresponding to the kind of invading infection,—simple catarrhal, gonorrheal, syphilitic, puerperal-septicemic, actinomycotic, tubercular, or diphtheritic.

In the ordinary acute catarrhal salpingitis the inflammation is confined to the mucous membrane, which becomes hyperemic, swollen and bathed with mucus or mucopurulent secretion.

The inflammation may subside, leaving no indication or trace of its having taken place, so it is seldom seen in surgery or at an autopsy. It may, however, go on into a subacute or chronic condition; the tube sinks lower in the pelvis, dropping over and often becoming adherent to the ovary; the mucous membrane hypertrophies, pushing itself up through the muscular layers, and pouts out at the ostium abdominale; the fimbriæ roll in or flatten out and disappear, or become glued to the ovary; some of the secretion may leak out, setting up a localized peritonitis and adhesions to the ovary and adjacent structures; the muscular fibers become inflamed and are replaced by inflammatory connective tissue, the walls of the tube become thickened and hardened, some portions of the canal dilate, forming pouches filled with the secretion, which is often mixed with epithelium; other portions of the canal become constricted by contraction of the connective tissue.

Or the secretion, before it has oozed out sufficiently to cause any extensive adhesions, may produce an adhesive inflammation at the fimbriated extremity, permanently closing it. The secretions may now collect in the tube until the pressure is sufficient to cause an escape through the other opening into the uterus. After a while the uterine end may become permanently closed and the tube dilates into the club or sausage-shaped pyo- or hydrosalpinx, according as the secretion is or is not purulent, or if during this inflammatory process there has been a hemorrhage into the tube there results a hematosalpinx,—these terms referring merely to the contents of the tube and not being descriptive of the pathology.

If the acute inflammation is due to a septic or specific inflammation the whole process detailed may be more rapid and the adhesions more extensive; as the violence of the attack subsides the adhesions contract, distorting the tube and broad ligament, dragging the uterus toward the side affected, or if both tubes are affected, directly backward and binding it there more or less immovably in retroversion.

The uterus, adjacent structures, and even overlying intestines and mesentery often become one adhesive mass, and in the mass there may be found a walled-off abscess, a condition of affairs described in older medical works under the headings parametritis, perimetritis, pelvic cellulitis, and pelvic peritonitis. Before this condition is fully reached the patient may die from the violence of the peritonitis set up by the leaking tube.

Tubercular salpingitis may exist as a primary infection or as an infection following a condition of general tuberculosis. It shows the characteristic tubercles, caseous degeneration, and the presence of the bacilli.

Diphtheritic, syphilitic, and actinomycotic salpingitis, though rare, have been noted.

Gonorrhea is not looked upon as so great a factor in the causation of salpingitis as when Noeggerath first declared that all cases of suppurative salpingitis were the result of that infection. According to careful investigation, scarcely one-fourth of all cases of salpingitis occur in women who have or have had gonorrhea, and even in those cases it is a question whether the gonorrhea is the cause. Dr. Howard Kelley claims to have discovered that coccus in pus-tubes, but I am inclined to think that in most if not in all cases of suppurative salpingitis occurring in gonorrheal women some streptococcus is the real exciting cause, and that the presence of the gonococcus, when it does occur, is an accidental or subsequent invasion.

The symptoms of acute salpingitis are: sharp pain in the left, or right, or both ovarian regions at or near the menstrual epoch, and usually lasting throughout the flow; tenderness over the tube to pressure from without or in bimanual examination; there is an associated endometritis and its characteristic discharge. If the case be a puerperal one, or an infection after miscarriage, there are added the pyrexia and all the symptoms accompanying such cases, and often the salpingitis may be overlooked or unrecognized.

It is necessary to differentiate from ovaritis and appendicitis, and in some cases that may be very difficult or impossible.

Treatment.—Rest in bed; anodynes to relieve the pain, codeia being probably the best and safest; topical applications of tincture of iodine per vaginam; ichthyol and glycerin tampons; hot water vaginal douches; and subsequent attention given to the endometritis. This routine may and often does entirely clear up all the trouble.

In the subacute and chronic varieties there is a history of dysmenorrhea, sterility, endometritis, occasionally a pyrexia not exceeding 101° or 102° F., backache, dull pain over tube and ovary, a dragging sensation when the patient stands; she may have an attack of peritonitis with marked high temperature.

Examination shows thickening over broad ligaments, with tenderness; more or less fixation of the uterus; the ovary is apt to be cystic or infiltrated with inflammatory products, or it may be atrophied or cirrhotic; there may be felt a mass of doughy-like consistency, indicating a pus-tube, with little or no signs of adhesions, or every thing may feel like a mass of adhesions almost or quite immovable, of which nothing can be clearly mapped out.

A mass of feces in the rectum or just above the sigmoid flexure may be mistaken for a pus-tube or other diseased condition, so that it may often be necessary to give the bowels a thorough clearing out before a definite diagnosis can be made. Sometimes it is difficult to differentiate a chronically inflamed tube from a cystic ovary or a uterine fibroid attached by a slender pedicle.

As to treatment, much may be accomplished even in the chronic stage by the use of ichthyol and glycerin tampons, hot-water vaginal douches, rest in bed, and anodynes. Unguentum Credé from all reports, ought to be of great service. Breaking up of adhesions by manual force, and restoring the uterus to its normal position, if the adhesions are not too dense, often gives more than temporary relief.

In operative work, conservatism accomplishes a great deal,—freeing the tube from an adherent ovary or other structure, amputation of the diseased ampulla, and making a new ostium by slitting the end of the stump and uniting the mucous membrane to the peritoneal coat; catheterizing and syringing out a suppurating tube may leave a fairly good working oviduct. It is often a nice question to decide in a given case whether the operation should be a radical or a conservative one, and the surgeon must be guided to a certain extent by the decision of the patient. The desire of a woman to bear offspring is not mere sentiment to be lightly cast aside, but is an inherent right, which must be respected by every surgeon; so, if in a given case the patient earnestly desires to exercise this right, and it is possible for the surgeon to aid her in the matter by patching up the tubes and ovaries and bringing them into fairly healthy condition, it is his duty to do so even if, at a later period, it may become necessary to operate for their removal or even to do a pan-hysterectomy. If, on the other hand, the operator finds diseased tubes which might be helped by conservative work, but just in that condition where he could not promise the patient that such work would relieve her sufferings and would render any future operative procedure unnecessary, and if she has become worn out with pain and the debilitating influence of the disease, and demands that everything diseased shall be removed so that the dread of another operation may not hang over her head, it is equally the duty of the surgeon to do his best to make as thorough an extirpation as possible. When there exists a hydro-, pyo-, or hematosalpinx, then conservatism has no place in the question, and its removal must be complete. If there is an abscess or pus-cavity down in dense adhesions which cannot be removed without being broken into, and it is well walled off from above,—then opening up through the vagina, breaking down all partitions of pockets, flushing out the débris, and instituting thorough drainage, is the proper procedure.

Prognosis in conservative work is always a doubtful factor, the partial work may light up a smouldering fire and create a worse condition than formerly existed. The attempt to break up adhesions by bimanual effort without opening the abdomen may rupture a pus-tube and subject the patient to all the dangerous consequences of such an accident. When the surgeon is permitted to do the work in a thorough manner the chances for complete restoration to health are manifestly greater.

A case which recently came under my care illustrates very nicely the ground midway between conservative work and radical work. Mrs. F., aged 31, married twelve years, had one child eleven years ago, since which time she has been sterile; specific history negative. Two and a half years ago she began to have pain in the left side in the lower part of the abdomen. This would last at times for weeks; then she would have a profuse flow of whites, and would be free from pain for a month or two, except at the menstrual times, when it would be very severe and last through the whole period of five or six days.

She obtained some relief from treatment with tampons and local applications, but the symptoms would recur. She came to me last July, and on examination I found it impossible to map out anything definitely on the left side on account of a mass blocking up that portion of the pelvis. Ichthyol and glycerin tampons followed by hot-water vaginal douches were used during July and August. Then, on examination, I could distinctly feel what seemed to be an enlarged ovary and thickened tube on the left side, bound by adhesions. The right tube presented nothing abnormal to the touch. As a sequence to the examination, though carefully made, the patient suffered severe pain again in the left side, compelling her to keep to her bed. Menorrhagia set in, lasting seven days. I then advised her to go to the hospital for the removal of the left tube and ovary. She consented and said she had suffered so much that she wanted me to be sure and leave nothing which might necessitate another operation, even if it required the removal of both ovaries and uterus as well. She entered the Central Hospital on Sept. 21, 1899, and on the 23d, with the assistance of Dr. Walter B. Chase and other members of the surgical staff, I removed both tubes and ovaries, leaving the uterus, which seemed normal.

These I here show you. The left tube, the openings of which are not permanently closed, is thickened, very hard and dense, tortuous and adherent to the ovary, and was bound down to the floor of the pelvis by strong adhesive bands, rendering it very difficult to bring it up into view before removal, and there was one recent slender band adherent to the anterior abdominal wall on the margin of the opening made. The ovary is enlarged and contains a hematoma one-half inch in diameter.

The right tube was in condition of acute inflammation just passing into subacute, was hyperemic, and showed very nicely the capillary injection; the canal was dilated with club-shaped extremity, both openings being temporarily closed, and was filled with about three or four drams of glairy mucus, some of which leaked out during the handling in removal; there were no adhesions; the ovary was small and atrophied.

With the history of the progress of the disease on the left side, it is very likely that the right would ultimately have reached the same condition, or, what is more likely, have developed a hydrosalpinx; hence the decision to remove both tubes and ovaries. The patient has made an uninterrupted recovery thus far, with no complications; wound healed by primary union; the temperature only reaching 99° F. twice, and remaining normal thereafter.

[*Later.*—The patient left the hospital at the end of the fifth week, there has been no return of any of the former symptoms, and she feels well.]

DISCUSSION.

The President: No subject could give us more ground for discussion; a single well reported case draws attention to a great many points. The subject is before you.

Dr. Jewett: I am sorry, Mr. President, I heard but a small portion of the paper. One point I caught is the discussion of the choice of route as between the upper and lower. While the vaginal operation is becoming deservedly unpopular there are some cases in which that method is best. A patient in bad condition can be safely drained by the lower route when she would not stand an abdominal operation well, and in many cases complete recovery results. In others, the recovery is not complete. The course I have pursued when operating below is to tear open the tube freely and pack it with washed-out iodoform gauze. The pack is removed in three to five days. Drainage goes on usually without repacking or the use of a drainage-tube. In favorable cases it is better to go in above, because a more complete operation can be done under ocular inspection, and with more room to work. The danger from soiling the peritoneum with pus is not always a real one. The pus often is dead pus, not infectious, and may be spread over the peritoneum with comparative impunity. Even when it is infectious it is taken care of by drainage through the vagina.

Dr. McNaughton: I have on two or three occasions operated through the vagina when I expected to find pus in the tube. The tube was distended, but it was impossible to make out fluctuation; however, I have opened the tube, relieved the tension, packed loosely and avoided suppuration. Such cases of interstitial salpingitis may be caught in that stage and we can do a conservative operation. I do not know that any of these women became pregnant afterwards, but they have made a satisfactory recovery.

Dr. Chase: Mr. President, as suggested by our presiding officer, this is certainly a very fruitful topic for discussion, because it leads us in a good many directions. It has not been my experience to often find cases of salpingitis requiring operative procedure in the acute stage; consequently I have seen but a very few cases of hydrosalpinx pure and simple. It seems to me that the progress made in matters of diagnosis, as well as of treatment, in somewhat recent years leads to a better appreciation of the causes of inflammation of the tubes and the appropriate method of their treatment.

I am heartily in sympathy with the expression of the reader of the paper that in not a few cases the better method is to attack this through the lower route. Of course there is an advantage in operating from above in certain cases, because you see the field of operation, and when you get through you know what you have accomplished; whereas, under certain conditions, if you operate from below you are left somewhat in doubt; but when it becomes a question of a circumscribed abscess which can be opened from below, and there are no special reasons for opening the abdominal cavity, I think it is conservative surgery to open and drain below and await results to see whether it is necessary to resort to other procedures for the cure of the case.

I think the concise statement of the reader of the paper regarding the pathology and clinical history of the cases is admirably put and must come with convincing power to every listener.

Dr. Gordon: I had a case this summer that illustrated some of the difficulties in determining between a pyosalpinx and a hydrosalpinx. I had previously seen the patient with several attacks of pelvic inflammatory trouble. This summer I was called to her, and on examination I found quite a prominent fluctuating tumor presenting in the vagina. I could also feel it above the pubes. I sent her into the hospital, supposing I was going to open a pus-tube, as I had reason to suppose there was gonorrheal infection, and there were many adhesions. I opened through the vagina and evacuated quite a large quantity of serous fluid, but no pus. I drained with iodoform gauze which was removed after four or five days, and she has since been very comfortable. It was evidently a hydrosalpinx.

Dr. Day: Dr. Gordon's remarks recall a case presenting similar history and features upon which I operated a year or more since. A large fluctuating tumor was apparent in the posterior vaginal vault. Thrusting into it a hypodermic needle a small quantity of fluid was drawn, which indicated that the trouble was elsewhere. Proceeding, the abdomen was opened, a pus-tube removed from one side, and an inflamed tube from the opposite side, but what I desire to speak of especially was the existence of nearly a pint of serous fluid in Douglas' cul-de-sac, which was walled off from the general abdominal cavity by rather firm inflammatory adhesions.

The President (Dr. Dickinson): The question that has been agitated recently and brought up by five cases of Emil Ries has hardly been touched upon—the removal of the uterine end of the tube deep into the uterine wall. I think Dr. Skene has some views on that matter; I know he has been making studies of these cases. Should we depend upon the ligature and muco-mucous apposition to occlude the Fallopian tube any more than we would to occlude an appendix? Ries' cases show renewed infection on reopening the abdomen around the end of the stump that had been completely removed according to our former methods,—that is, by ligation close up to the uterus,—and showed a patent cornu in such cases, and he made a strong plea for complete removal. It has been my practise to dissect out the inner end of the tube from the uterine wall and sew over the deep gap in one layer or two. I remember Dr. Skene believed that his forceps held that end of the tube firmly—occluded it completely and permanently.

Dr. Shoop: Dr. Gordon's case nicely illustrates the fact that a salpingitis occurring subsequent to an attack of gonorrhea need not necessarily be attended with suppuration. Usually a hydrosalpinx is not, or at least only slightly, adherent; hence the reason the Doctor so easily mistook this one, which was so bound down, for a pyosalpinx.

The point referred to by Dr. Dickinson, of occluding the canal so that there can be no further infection, is a very important one, and in this case I used the Paquelin cautery on the stumps.

REMARKS ON GANGRENE OF THE LOWER EXTREMITIES: WITH A PLEA FOR EARLY OPERATIVE PROCEDURE.

BY WILLIAM MADDREN, M.D.

Read before the Brooklyn Surgical Society.

My experience in the Kings County Hospital with a considerable number of patients suffering from gangrene of the lower extremities in the advanced stage of the disease, and the almost hopeless condition of many of these patients when first seen by the surgeon, leads me to bring up the subject for consideration and discussion, and to urge the earliest possible surgical procedure.

Naturally the class of cases of this disease that come to the surgeon in a county hospital are among the worst; generally the result of poverty, privation, and neglect; or of dissipation, syphilis, etc. Often the patient has been attended by one or more physicians; sometimes he comes from another charitable institution; occasionally from another hospital. Amputation may have been advised—perhaps not sufficiently urged—and the patient, ignorant of the consequences or hopeful beyond reason, declines operation only to realize his condition and wish to reverse his mistaken choice after he has suffered much and is in a far less favorable condition to undergo the necessary operation.

The essential feature of gangrene is the more or less complete failure of the blood to circulate in a part, resulting in its death. The cause may be general, as in the impairment of the general circulation; or local, as in the obstruction, injury or compression of main arteries or veins; or of the smaller arteries, capillaries, and veins; or it may be due to spasm of the arterioles. In the class of cases met with in the Flatbush Hospital we almost always have impairment of the general circulation, combined with a local cause. Men are the subject of attack about twenty times as often as women.

Among the general or predisposing causes we may enumerate:

1. Old age with its feeble and slow circulation, consequent upon cardiac weakness.

2. Fatty degeneration with exhaustion of the heart muscle.

3. Acute and chronic endocarditis.

4. Atheromatous degeneration of arteries from abuse of alcohol, from gout, rheumatism, etc.

5. Endarteritis obliterans, from chronic arteritis, often due to syphilitic and tubercular inflammations.

6. Acute arteritis or phlebitis.

7. Diseases capable of producing marked cyanosis—as bronchitis, emphysema, etc.

8. Exhaustion.

9. Loss or want of blood.

10. Diminution of blood pressure, due to cholera, acute diarrhea etc.

11. Thrombosis.

12. Diabetes.

Among the local causes, we may mention:

1. The blocking of a main artery by a thrombus or embolus and failure to establish collateral circulation, atheromatous degeneration, and endarteritis obliterans being by far the most frequent cause of the thrombosis, and perhaps cardiac vegetations and septic thrombi the most frequent causes of the embolism.

2. Thrombosis of the femoral or other principal veins of the leg.

3. Acute phlebitis or arteritis resulting in gangrene.

4. Edema of the lower extremities and local causes largely connected with bloodlessness.

Among local causes from traumatism we may place:

5. All preceding injuries that have impaired the circulation and vitality of the limb.

6. The crushing or pulpifying of the limb or tissues.

7. The separation or occlusion of its main artery.

8. The division of main nerves.

9. Scalds and burns of high degree.

10. The result of frost-bite.

11. Invasions of wounds by the various forms of septic material.

Preventive measures.—It has been said that gangrene arising from a failure of the general circulation can hardly be foreseen; but careful watching and examination of the patient leads to the discovery that the limbs are becoming cold or losing sensation, or that dusky red, indurated patches are appearing on the skin. In the more local form, severe, continuous pain in the foot and leg is sometimes the earliest indication of threatened gangrene. Where it is possible to ward off the occurrence of this disease, it is done, in a general way, by improving the force of the heart, as with strychnia, digitalis, cardiac, and general tonics, etc., and by replacing lost fluids by saline infusions or rectal enemas. Locally, by wrapping up cold limbs in cotton batting, carefully supplying appropriate heat, avoiding pressure and all cause for irritation, and by carefully placing and keeping the limb in a position most favorable for the circulation. Thrombosed and gangrenous patches of the skin should be at once incised, and iodoform gauze slipped beneath. This prevents further absorption from the slough, which is later removed.

Measures preparatory to operation.—Not only the conditions of the heart, blood-vessels, and circulation should be ascertained, but in this class of cases it is specially desirable that a full knowledge of the condition and work of the kidneys be also obtained, as chronic nephritis and diabetes mellitus are frequent complications and considerable factors in the causation and often in the unfavorable course of this disease. To prevent or diminish shock, for several hours before the time of operation, the patient should be kept warm in bed, and hot drinks of coffee, milk, or whisky and water administered. An hour or less before the operation it is a good plan to give hypodermically $^1/_{25}$ grain of strychnia; 3 grains of citrate of caffein may be added. One-quarter of a grain of morphia with $^1/_{500}$ of a grain of atropin, if not contraindicated, is of service in tranquilizing the patient and facilitating the production of anesthesia. Every reasonable encouragement should be given. Special care should be taken to provide for keeping the body and other extremities warm and well supplied with blood during the operation. A dry, warm, sterilized blanket should be folded and placed beneath the patient's back, another over the chest and abdomen, the other leg should be well enveloped in warm cotton batting and suitably wrapped to protect it from harmful pressure or injury during the operation.

To avoid irritation of the tissues during operation, aseptic or the milder antiseptic solutions, such as saline or Thirsch, should be used.

After amputation, particular attention should be paid to the tying of the vessels (sometimes brittle or disorganized) and the arrest of all bleeding points, before closing the wound, in order that pressure need not be depended upon to arrest or control hemorrhage and thus run the risk of causing sloughing of the flaps.

For the same reason, the dressings on the stump should be soft and light but abundant, and applied so as not to compress, but rather to protect and support.

In considering the advisability of early operative procedure my purpose is to ask your attention particularly to those forms of gangrene of the lower extremeties requiring amputation. The "American Text-book of Surgery" says: "A considerable number of cases, which in former times were allowed to die without surgical interference are now undoubtedly saved by amputation." My experience in the Flatbush Hospital confirms this statement. On the other hand, we must bear in mind that so eminent an authority as Dr. Roswell Park says: "In the senile, and particularly in the diabetic forms, amputation is, in the majority of cases, a disappointment. But amputation for traumatic and acute cases is, in the majority of instances, *if not too long delayed*, successful in saving life."

In determining the point at which to amputate, the pathology of the disease should be kept in mind. In senile and diabetic gangrene if amputation is to be done at all, it must be high—for instance, if a greater portion of the foot than the great toe be involved, it will be eminently judicious to amputate above the knee (in the lower third or at the junction of the lower and middle third of the thigh). This point is generally to be preferred because the flaps will then be nourished largely by branches of the profunda femoris, which is rarely thrombosed.

Senile gangrene of the toes, if due to the disease of the vessel, demands amputation at least above the ankle. Even here the condition of the vessels may make it advisable to go above the knee.

In traumatic gangrene, amputation at the nearest point of election above the injury will often suffice. In spreading, traumatic gangrene, involving septic processes, it is necessary to amputate instantly and far away—that is, sufficiently high to remove all tissue involved. In cases of gangrene from acute phlebitis or arteritis, involving the main tibial vessels, and generally preceded or accompanied by very severe pain, amputation below, or at the knee-joint, will frequently necessitate re-amputation above the knee, because of the sloughing of the flaps or of the death of the bony tissue.

In gangrene from frost-bite, separation at the line of demarcation is seldom sufficient to insure sound healing of the parts because the adjacent tissues are devitalized and infiltrated, which necessitates removal at a point often a considerable distance above the line of demarcation.

The spontaneous or angioneurotic form of gangrene of Billroth, occurring during youth, caused by arteriosclerosis and thrombosis, running a tedious and painful course and usually necessitating amputation, I have not seen. In symmetrical or paroxysmal gangrene (Raynaud's disease) little operative interference is needed. Hospital gangrene, as a type, has almost disappeared from observation. The most approved treatment seems to have been by bromin, carbolic acid, etc. It is not my purpose to speak of the superficial or cutaneous gangrene—the form known as decubitus or bed-sore.

To sum up, let me say, in the first place, in order that the conditions should be made as favorable as possible for these vitiated and enfeebled tissues, there is a special necessity and obligation for all those interested to see that the hospital for the treatment of cases of this class—as in all cases that have suffered from an environment of poverty, privation, dissipation, etc.—shall be most salubriously situated, and completely equipped and maintained. In the second place, is it not the highest type of conservatism and the wisest and best policy to urge patients suffering from gangrene, as soon as their physician approves, to submit to amputation at the most favorable point, during the early stages of the malady, while their recuperative powers are at their best and their system is less charged with toxic material? Surely the opportunity to recover is sometimes lost, or thrown away, by failure to act promptly.

DISCUSSION.

Dr. A. T. Bristow said that the rule which used to guide us with regard to the treatment of these cases of gangrene was due to a faulty knowledge of the pathology of the affection. The old rule used to be to wait until there was a line of demarcation. This delay must often have caused injury to the patient, because while waiting for the line of demarcation to form there was a slow absorption of the septic products and a deterioration of the heart's action and a general decline of the powers of the patient. Now that we recognize arterial degeneration as the cause of this diseases, we are ready to accept the dictum of Senn of Chicago, in these cases of diabetic and senile gangrene, and to amputate at the lower third of the thigh where the vessels are most likely to be found in a healthy condition. We thus operate earlier than the old rule permitted, and if this rule of Senn's holds good—as it surely does—there can be no necessity for waiting as was the rule in former days.

With regard to diabetic gangrene, the speaker had not had quite as gloomy an experience as has been mentioned by others. He remembered one case which occurred some years ago, on which he operated for diabetic gangrene just below the knee. That man made a very excellent recovery; and at the time, he had 10 per cent. albumin. The family physician this summer told the speaker that the man had, during the past summer, died with diabetic gangrene of the other limb; he refused amputation, and said he would die with at least one leg on. In this case, when Dr. Bristow operated, he found the popliteal vessels in good condition; and he believed, after all, that that is the guide to all these operations. We must operate where we can get a good vessel, and it is not so much the amount of gangrene that is present that should guide us, as that fact. We can only be sure of getting a good vessel, he believed, by going certainly not lower down than Carden's amputation of the condyles.

Dr. L. S. Pilcher said he was sure the statement of the general facts connected with this subject, as made by Dr. Maddren, reflects the consensus of opinion of modern surgeons. He had little to add to what he had said, beyond going into details of personal experience. He had had his victories and his defeats in these matters, and often had had occasion to realize the uncertainties of surgical efforts in dealing particularly with these cases of diabetic gangrene. He would add nothing special in regard to the matter of flaps. He was sure the vital question in all these cases is the blood supply, and that had been sufficiently brought to the Society's attention anew by the remarks of the preceding speaker. This must be studied in each individual case to determine the choice of the lines of the incision and the shape of the flaps in that particular case. It seemed to him that there must be taken into consideration how we shall both secure the immediate supply of blood, and how, in the later dressings and care which the stump shall receive, we may do away with pressure which may interfere with the proper supply of the flaps. If amputation is to be done in any of these cases, unquestionably the earlier it is done the better, and if it is to be done at all, no chance should be taken as to the region through which it is to be carried. We ought to go where we are sure of having a patent vessel and abundant blood-supply rather than through a region where possibly we might find the blood-supply insufficient. We are to remember also, in our choice of the situation and the shape of our flaps, this point: that tissue which while previous to invasion by the knife had been sufficiently nourished, by the edema and disturbance of the circulation consequent upon the traumatism of the operation, may find its blood-supply choked. That was one reason why we have learned the importance of the teaching that in these cases of gangrene, whatever their character, we should go far away from the region affected—above the knee, if possible. He was fully in accord with all that had been said in that respect in the paper and by the previous speaker on this subject.

Dr. Maddren said that he wished we could reach a class of practitioners that are not present—gentlemen who wait for the line of demarcation to form in all cases of gangrene, those who send their cases to the hospital and to the surgeon in a practically hopeless condition. If we could reach those gentlemen and have them use their influence for an early operation we might do a considerable amount of good.

THE BROOKLYN MEDICAL JOURNAL.

Communications in reference to Advertisements or Subscriptions (Subscription Price $2.00 per annum) should be addressed: Business Manager, Brooklyn Medical Journal, 260 Hancock Street, Brooklyn, N. Y.

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Books for Review and Articles for Publication should be addressed: Brooklyn Medical Journal, Polhemus Memorial Clinic, Brooklyn, N. Y.

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EDITORIAL.

DIAGNOSTIC METHODS IN DISEASES OF THE STOMACH.

There appeared in the Brooklyn Medical Journal of February, 1899, an original article on "Diagnostic Methods in Diseases of the Stomach," which was read by the author, Dr. Lewis N. Foote, before the Medical Society of the County of Kings at the meeting in September, 1898. The article was appropriated bodily by one of our manufacturing pharmacists and distributed as part of their advertising matter.

The Editorial Committee feel that it is but a matter of justice to the author, also to Dr. Chas. S. Fischer with whom Dr. Foote has been associated in the matter of special research, and also to the Journal itself, to say that this appropriation by the aforesaid manufacturer was entirely without the knowledge or consent of the gentlemen named or of the Journal, and when a protest was made against the use of the article as advertising matter its distribution was at once stopped.

THE WORKING OF THE DISPENSARY LAW

It is, perhaps, as yet too early to determine what the effect of the rules and regulations promulgated by the State Board of Charities will ultimately be, but from indications their strict enforcement will very materially reduce the number of applicants for medical relief. From one of the large dispensaries of Brooklyn the following statistics have been obtained. On December 1st, the date when the rules were first enforced, the number of applicants was 93, of these, 14 were rejected. On the 2d, there was the same number of applicants with 16 rejections; on the 3d, 110, 20 rejected; 4th, 70, 8 rejections; 5th, 73, 9 rejections; 6th, 45, 7 rejections; 7th, 56, 8 rejections; 8th, 38, 12 rejections; 9th, 71, 16 rejections, in all 649 applications with 110 rejections, or 17 per cent. One of those refused was a woman whose husband owned a liquor-store and employed two bartenders, but who allowed his wife only $8 per week for her support. In this dispensary it was not unusual to have 150 patients a day.

In another of the large dispensaries there has been a considerable increase in the attendance since the rules have been promulgated. During the first nine days of December, 1898, 1145 patients were treated; for the same period in 1899 the number is 1376.

It would be exceedingly instructive to make a careful survey of the dispensaries of the city and see how the rules are being carried out. We presume that great differences would be found in the methods employed. The Registrar is endowed with great discretion in the performance of his duties. It is he whose duty it is "to examine all applicants to determine the question of their admission," and who is to cause an investigation of the applicant's financial condition to be made when he is "in doubt." If, therefore, the Registrar of the dispensary bases his decisions upon one standard of poverty and that officer in another fixes upon another standard, there will be great discrepancy in the statistics; for unfortunately there is nothing in the law to determine who is "poor and needy;" all is left to the Registrar.

The rules have been carefully drawn so as to provide for the "separation of the sexes in the waiting- and treatment-rooms," but have made no provision for their separation during the searching examination into their financial condition, and men and women, irrespective of age or condition, are found in line in the order in which they enter, and the questions propounded so that all who will may hear. If there is any part of the procedure which should be conducted privately it seems to us that it is this. However, we are not disposed to be too critical at this stage of the reform; the abuse of dispensary relief was a great one, and of long standing, and it will take much thought, time, and patience to correct it. Modifications of the rules will undoubtedly be required, and the sooner the dispensary authorities come together and agree upon uniform methods the better it will be for all concerned. It would seem that in the investigation as to the financial condition of applicants, a central body, such as the Bureau of Charities, would be the best agency to employ. Applicants refused at one dispensary will naturally go to another, and if different sets of investigators are sent to make inquiry, it will be difficult to obtain the desired information. A central bureau would in a short time have records which could be referred to by all the dispensaries and the occupation of the "dispensary rounder" be broken up.

HOSPITALS FOR THE TREATMENT OF PULMONARY TUBERCULOSIS.

We print elsewhere the act passed by the Legislature of 1899 empowering cities of the first class to establish, equip, and maintain hospitals for the regular treatment of pulmonary tuberculosis. We would call especial attention to it at this time because of the receipt by us of the following letter:

"Dear Sir:

"The following Act empowers the Department of Health of New York City to take important action tending to prevent the spread of consumption through infection.

"Please read carefully, and if it is your opinion that the City authorities should exercise the power conferred by this Act fill out and mail the enclosed postal-card.

"Daniel Lewis, M.D.,
"President State Board of Health."

We trust that every member of the profession who receives such a letter will promptly sign and mail the card as requested. It is, we think, not too much to say that this act would never have been either framed or passed had it not been for the pioneer work done by the Medical Society of the County of Kings and the continuance of that work for years past, and while it may be invidious to select individuals from the many who have borne a prominent part in the accomplishment of this result, still we feel that all familiar with the facts will not object to our naming the late Dr. P. H. Kretzschmar, and Drs. George A. Evans and George W. Brush as especially entitled to honorable mention.

PROGRESS IN MEDICINE.

SURGERY.

BY GEORGE RYERSON FOWLER, M.D.,
ASSISTED BY RUSSELL S. FOWLER, M.D.

GANGRENE OF THE LUNG.

By E. v. Meyer. The case was one in which, following an abortion, septic infarcts developed in the lung. In the course of five weeks one of these caused extensive dulness, with bronchial respiration, below the inferior angle of the scapular, on the right side. There was profuse purulent expectoration and loss of strength. Exploratory puncture revealed very offensive pus. A rib was resected just below the angle of the scapula. The pleura was found adherent. The abscess wall, half a centimeter thick, was incised, and about 200 c. cm. of pus and gangrenous tags of tissue evacuated. The abscess cavity was the size of a man's fist and showed a bronchial fistula. The patient immediately improved. The wound gradually became clean and after some months healed completely without leaving a fistula. That side of the chest shrunk but little.—*Deutsche Zeitschrift für Chirurgie,* LI., p. 391.

THE FORMATION OF A SPHINCTER FROM THE LEFT RECTUS IN COLOSTOMY.

By v. Hacker. The author proposes the following method in cases of colostomy in which a permanent artificial anus is indicated. The skin is incised parallel to Poupart's ligament and above it as far as the external border of the sheath of the left rectus. The epigastric vessels are spared as much as possible.

This incision is deepened to the peritoneum, the peritoneum opened, and a thorough exploration instituted as to the mobility and condition of the sigmoid flexure. A portion of the sigmoid is brought into the wound, the afferent loop extending upward and outward, the efferent loop leading downward and inward. A separation is now effected between the transversalis fascia and the structures lying above it, and this is continued until the outer edge of the rectus is reached. The rectus muscle itself is separated into an anterior and posterior half. The skin is incised at the inner edge of the rectus. Through the passageway thus formed from the peritoneal incision to the skin of the median line is drawn the selected loop of the sigmoid, which may, if it is wished, be slightly rotated. The displaced sigmoid is sutured in situ, and the original oblique incision closed.

v. Hacker has used this procedure in three cases. The first case died soon after the operation from pleuritis. The second case survived the operation for three months. During this time the artificial anus functionated satisfactorily except when the patient suffered from diarrhea. In the third case, the artificial anus has functionated satisfactorily for one year and nine months. The patient is able to retain his stools without effort. There was absolutely no soiling of the parts except in case of diarrhea.—*Beiträge zur klin. Chirurgie,* Vol. XXIII., Fasc. 3.

THE TREATMENT OF TUBERCULOSIS WITH CINNAMIC ACID.

By A. Landerer, Leipsig, 1898. Advanced tubercular processes are not apt to undergo cicatrization. Landerer explains this on the basis of diminished inflammatory reaction in and around the tubercular focus. He endeavored to set up an artificial inflammation, and thus cause cicatrization. Inflammatory processes the result of bacterial infection had been tried without beneficial result, so the author tried producing aseptic inflammation by chemical means. Peruvian balsam was found to be an excellent specific. In order to effect a cure, it is necessary not only to treat the localized focus, but to treat other foci, which may be scattered through the body. It is necessary to introduce the Peruvian balsam into the blood that these latter foci may be reached. Experiments showed that corpuscular elements, injected into the blood, lodge in the greatest numbers at those points where there are inflammatory processes. It is presumably true that Peruvian balsam is effective against these scattered foci. It must be injected in a solution which will not lodge in the capillaries and act as a barrier there. Great difficulty was experienced in obtaining an emulsion of the balsam sufficiently "fine" for intravenous injection. Landerer, therefore, experimented with the active principle of the balsam, cinnamic acid, and finally determined that a watery solution of this was best for injection purposes, on account of the ease with which it could be sterilized.

This solution of cinnamic acid was injected intravenously in rabbits the subjects of phthisis. The following changes in the lungs were noted: A zone of inflammation is found around the tubercular focus. This consists of capillary ectasia, exudation of serum, and collections of leucocytes (*leucocytosis*). This forms the first stage of the process. Later a thick wall of leucocytes forms around the tubercular focus and simultaneously new vessels are developed, and multinuclear leucocytes migrate into the tubercular focus and its septa. This is known as the *encircling* stage. At a later period the tubercles are found surrounded by young connective tissue consisting mostly of epithelial cells, and vessels are seen growing into the focus. This is known as the stage of *vascularization.* In this stage the bacilli have entirely disappeared. Finally the stage of *cicatrization* begins. The young connective tissue is transformed into cicatricial tissue, while the pulmonic tissue is found partly emphysematous, partly normal, and partly in the condition of chronic interstitial pneumonia. The histologic findings in man were the same as the above. It was also noted in man that cavities were encapsulated in the same manner, as evidenced by the disappearance of their physical signs.

L. offers the following explanation: The cinnamic acid produces leucocytosis by chemotaxis. These leucocytes simultaneously migrate from their place of origin. The red blood-cells are not affected.

The injections were made in the gluteal region and intravenously, the former method being less efficacious than the latter, which is to be used only in those cases, as in children, in which the intravenous injection is contraindicated. The solution must be freshly made and sterilized. It is best made up with physiologic salt solution, and should be neutral in reaction. No suppuration was observed in any case. Should this occur it is due to faulty technic.

In cases without fever and in which no marked destruction of lung-tissue has taken place, recovery may be expected in about two months. Cases without fever and in which small cavities are present also heal completely. If the cavities are large, they become encysted, the expectoration becomes very slight, bacilli disappear, the general health improves, and the patient becomes quite normal, so that the case may be spoken of as relatively cured. Some of the cases with fever and cavities recover completely. Of the cases of acute phthisis, of young persons, some may recover. The principal danger in these cases is the septic fever, against which the injection is powerless, though it causes the disappearance of the tubercular fever.

Cases of intestinal tuberculosis are cured unless the patient's strength has decreased too much. In these cases the fever seems to influence the prognosis less unfavorably than in tuberculosis of the lung.

Tuberculosis of the serous membranes is also favorably influenced by the injections. Cases of congenital tuberculosis recover if the treatment is begun at a very early stage. Here again secondary infection with other bacteria offers the greatest obstacle to recovery.

Cerebral and meningeal tuberculosis does not seem to be influenced. There were no cases of tuberculosis of the eye treated.

In the treatment of tubercular wounds, cinnamic acid was found useless, as its antiseptic power is slight. It cannot be combined with iodin with advantage. At present L. uses a combination of cinnamic acid and creosote. This is sold under the name of hetokresol. Intravenous injection is always carried on in conjunction with local treatment. In joints in which no suppuration has taken place L. injects into the fungous masses with careful aseptic precautions. He begins with five mg. of a five-per-cent. solution of hetol and gradually increases the dose to twenty-five mg. For open wounds hetokresol or balsam of Peru is used. The former is powdered in a thin layer directly upon the surface of the wound. It cannot be sterilized, and therefore cannot be employed in the treatment of closed tubercular abscesses. Nor are its antiseptic powers great, so it may with advantage be mixed with iodoform in treating deep wounds. Tubercular abscesses are punctured, washed out with sterile normal salt solution, and injected with from three to ten c. m. of a solution of ten per cent. hetokresol and five per cent. of iodoform. The small opening through which this is done is sutured and dressed. Few typical resections are done by L., as he has good results from the treatment with cinnamic acid.

In glandular tuberculosis, if suppuration has not occurred, the treatment is by injections. If suppuration has taken place they are not cured by this, but must be aspirated, and equal parts of hetokresol and iodoform in saline solution injected; or they may be incised, curetted, and dressed with hetokresol.

In cases of tuberculosis of the skin, L. injects on an average weekly a five-per-cent. solution of equal parts of cinnamic acid and muriate of cocain in spirits of wine. Intravenous injection does not seem to influence this form of tuberculosis.

Numerous histories are cited in the original to show the good results of this treatment.—*Cent. f. Chir.*, 1899, XXIV., 696.

AN OPERATION FOR THE CURE OF CONGENITAL ECTOPY OF THE BLADDER.

By J. Mikulicz (Breslau). In the *Centralblatt für Chirurgie* of April 22, 1899 (No. 16), Dr. Max Rutkowski, of Krakau, described a new method of treating ectopy of the bladder. He completely eliminated a portion of the small intestine six cm. in length, split it longitudinally, and implanted this intestinal flap so as to enlarge the rudimentary bladder. The operation was done in one stage on May 12, 1898. The course of wound healing was uneventful. Rutkowski was unable to state the final result as the patient was only under observation for two months. At the time he was dismissed from the hospital he was able to retain twenty-five c. c. of urine in his bladder.

Mikulicz operated almost simultaneously upon a case of ectopy of the bladder in which the vesical wall was very rudimentary and entirely insufficient to form an adequate receptacle for the urine. He employed the same idea as Rutkowski, but did the operation in several stages and used a much longer portion of bowel, a segment twelve cm. in length from the lowermost part of the ileum. The operation was described by him in the *Medicinische Gesellschaft für vaterlandische Kultur,* Dec. 2, 1898. A brief account of it may be found in the *Deutsche med. Wochenschrift,* March 2, No. 9, page 53, 1899. The operation was not done in one stage, for the following reason: In the author's first experiments regarding total elimination of bowel, carried on about ten years ago in Königsberg, in conjunction with Hermann (Hermann, "Ein Versuch. zur Physiologie des Darmkanals," *Pflüger's Arch.,* Bd. XLVI., p. 93, 1890), he found that the eliminated portion of intestine did not always act the same. Usually it remained well-nourished, all the intestinal coats were preserved, and the mucous membrane apparently secreted as under normal conditions. In some cases, however, it was found that the intestinal wall, particularly the mucosa, atrophied, and sometimes the entire bowel-wall shrunk into a thin cord. Later experiments by von Salzer, v. Eiselsberg, Klecki, Reichel, Baraçz and others have also demonstrated that the eliminated portion of intestine does not always behave in the same way. Secretion especially may be affected very materially. It is this circumstance that explains the varied views held by different authors upon the advisability of employing total elimination. Rutkowski, in his experiments upon animals, had two experiences similar to the above.

For this reason, in order to avoid unnecessary interference with the circulation, Mikulicz did not transplant the bowel flap directly into the bladder, but, having eliminated it completely, left it inside the peritoneum. One end was closed and the other left open and sutured to the abdominal wall, near the vertex of the bladder. It was only when it was absolutely certain that no changes had occurred in the eliminated segment that the further steps in the operation were undertaken. These steps will be described in a later communication.

The first operation was performed June 18, 1898; the last, February 4, 1899. It is clear from what has been said above why Mikulicz took such a long time in the treatment of his case and why he did not report his operation earlier. Its value depends entirely upon the final functionating power of the new-formed bladder. From our experiences with other methods for the cure of vesical ectopy we can say that too short a time has elapsed in this case to speak definitely as to the final outcome. The author for this reason wishes to keep his case under observation for a longer period. As far as may be determined at present, the result is very satisfactory. The bladder has a capacity of 100 cm., and this seems to be increasing. No kidney complications have occurred as yet. The case will be reported more fully when it has been under observation for a sufficient length of time to speak definitely of the result.—*Centralblatt für Chirurgie,* XXII., 641, 643, 1899.

EXCISION OF HEMORRHOIDS.

By G. Reinbach. The author reports eighty-one cases of hemorrhoids operated upon in Mikulicz' clinic, in Fränkel's clinic, and in the Augusta Hospital in Breslau. The usual method followed was that advocated by Whitehead in 1887. Mikulicz modifies this to some extent; he does not dilate the sphincter; he ligates the bleeding vessels with catgut in place of silk; irrigation is used to keep clean the area of operation instead of sponges. The thermocautery, after the method of v. Langenbeck, was only used in cases in which there was ulceration of the skin or mucous membrane, abscesses, or such inflammatory appearances as phlebitis and periphlebitis. In all other cases excision was used. As advantages of the latter procedure, the author claims that the technic is simple, that all the affected tissue may be removed, that the formation of a stricture is impossible, that it is particularly free from danger, as primary union is obtained and hence infection and secondary hemorrhage avoided. These latter may complicate the operation by the thermocautery, as there a scab is cast off. The final results favor excision. All the cases were discharged from the hospital healed. None was infected. Secondary hemorrhage occurred in but three cases. The sutures gave way extensively in but one case. Of seventy cases which could be followed up, sixty-nine were permanently cured. On the other hand of twenty-seven cases treated by means of the thermocautery there were four probable recurrences and one certain recurrence. Consequently the author advocates excision rather than the thermocautery.—*Beiträge zür klin. Chirurgie,* Bd. XXIII., Hft. 3.

PROCEEDINGS OF SOCIETIES.

CLINICAL SOCIETY OF THE BUSHWICK AND EAST BROOKLYN DISPENSARY.

This society was organized by the Staff of the Dispensary on October 13, 1899, for the purpose of bringing before the entire staff such interesting cases as might from time to time present themselves at the separate clinics.

No papers are read and the discussion is confined mostly to the cases examined and to similar cases which may have come within the knowledge of the members.

Meetings are held once a month at the Dispensary, Myrtle avenue, corner Lewis avenue, and each meeting is in charge of a special or section committee of five members, there being four such sections, which have charge of the meetings in rotation.

The officers elected for the first year are: Dr. W. L. Chapman, President; Dr. F. A. Jewett, Vice-President; Dr. F. S. Kennedy, Secretary.

The first meeting was held November 17th, at 3.30 P.M., the clinical program was in charge of Dr. Edwin A. Hatch, and was as follows:

1. "A Case of Compound Fracture of the Clavicle." Clinic of Dr. H. T. Peck.
2. "A Case of Catarrhal Jaundice." Presented by Dr. H. T. Peck.
3. "A Case of Multiple Exostosis." Presented by Dr. E. A. Hatch.
4. "A Case of Adenoids of the Nasopharynx, Their Local and Remote Consequences." Presented by Dr. S. H. Lutz.
5. "History of a Case of Tubercular Meningitis, with Mastoid Operation." Presented by Dr. B. C. Collins.
6. "A Case of Muscular Rupture in an Infant." Presented by Dr. L. J. Cardona.
7. "A Case of Hematuria." Presented by Dr. H. T. Peck.

Two of the cases named failed to appear as promised but there was enough material on hand to prolong the discussion to a late hour.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

714th Regular Meeting, Tuesday, November 21, 1899.

The President, Joseph H. Hunt, in the Chair.

REPORT OF COUNCIL.

The Council reported favorably upon: Alexander Locke Anderson, L. I. C. H., 1898. Carl Ferdinand Hermann Fischer, P. & S., N. Y., 1896. Benjamin Franklin Knause, Bell., N. Y., 1897. Frederick LeBrun Brady, P. & S., N. Y., 1899.

APPLICATIONS FOR MEMBERSHIP.

George Everson, 364 Greene avenue, Dartmouth, Col., 1885. Nominated by Membership Committee. Endorsed by Joseph H. Hunt.

Charles P. Frischbier, 200 Graham avenue, L. I. C. H., 1899. Nominated by Membership Committee.

Frederick W. Walsh, 386 Union street, P. & S., N. Y., 1884. Nominated by Membership Committee.

George Armon Clark, 336 9th street, L. I. C. H., 1898. Nominated by Membership Committee.

Thomas Ennis McCarthy, 372 State street, L. I. C. H., 1898. Nominated by Membership Committee.

Robert Ernest Kinloch, 283 Franklin avenue, Albany Medical Col., 1899. Nominated by Membership Committee. Endorsed by S. Paul Truax.

Hugh H. Atkinson, 1617 Beverly Road, Flatbush, Univ. of Penn., 1898. Nominated by Membership Committee.

David E. Hoag, 985 Lafayette avenue, Univ. of Maryland, 1896. Nominated by Membership Committee.

Alfred Edward Shipley, 239 Keap street, P. & S., N. Y., 1899. Nominated by Membership Committee.

Susan George Sutherland, 344 Putnam avenue, Cornell Univ. Medical Col., 1899. Nominated by Membership Committee.

Robert L. Irish, 270 Halsey street, Univ. and Bell. Hosp. Med. Col., 1899. Nominated by Membership Committee.

A. Theodore Gaillard, 506 9th street, So. Car. Med. Col., 1897. Nominated by Membership Committee.

Robert Kingman, 349A Gates avenue, L. I. C. H., 1899. Nominated by Membership Committee.

Edward P. Uptegrove, 693 4th avenue, Univ. of Penn., 1899.

Elizabeth M. Sturgis, 108 Milton street, W. M. Col., 1895.

Frank E. A. Stoney, 229 82d street, L. I. C. H., 1899. Nominated by Membership Committee.

Carroll Chase, 263 Hancock street, L. I. C. H., 1899. Nominated by Membership Committee.

Stewart Lewis, 496 Vanderbilt avenue, N. Y. Univ., 1897. Nominated by H. A. Fairbairn. Endorsed by J. E. Sheppard.

Robert Cannion, 304 Jay street. Nominated by P. Chalmers Jameson. Endorsed by E. C. Cornwall.

A. V. Payne, Bedford avenue, N. Y. Univ., 1897. Nominated by D. Myerle.

ELECTION OF MEMBERS.

The name of J. Frederick Haller, Buffalo University, 1888, having been regularly proposed and favorably acted upon by Council, Dr. Haller was declared by the President elected to membership.

SCIENTIFIC BUSINESS.

"Changes Affecting the L. I. State Hospital (formerly the Kings Co. Lunatic Asylum) Incident to Its Transfer to the State of New York," by Robert M. Elliott. Discussed by Drs. Coombs and Browning.

"Injuries to the Head with Relation to Its Surgical Treatment," by Silas C. Blaisdell. Discussed by Drs. Warbasse, Delatour, Bristow, Browning, and Blaisdell.

"The Treatment of Acute Urethritis," by William E. Butler. Discussed by Dr. Morton.

EXECUTIVE BUSINESS.

Dr. West reported on behalf of the Building Committee that most of the recent delays and difficulties in getting material for the new building had been overcome; that the work was going on at the present time more satisfactorily; that the Committee expected the work would be finished within two months, or so nearly completed that the next annual meeting of the Society could be held within its walls.

Dr. Foote presented the following resolution:

Resolved, That it is for the best interest of this Society as well as for the publishers of the BROOKLYN MEDICAL JOURNAL to have the reading matter of such Journal regularly copyrighted, and the Manager of the BROOKLYN MEDICAL JOUNAL is hereby requested to give the matter his early attention. On motion, duly seconded, this matter was referred to the Council.

The President referred to an experience which Dr. Foote had, where a paper which he had read and which was published in the BROOKLYN MEDICAL JOURNAL, referring to certain dyspepsia tablets was copied and sown broadcast in a circular by the Brunswick Pharmaceutical Company.

Dr. Kennedy offered the following resolution: *Resolved*, that the Committee on Legislation be directed to take such action as will insure the cooperation of the medical profession with other organized bodies to the end that an act or bill may be passed by the Legislature of the State of New York which shall cover and embody the features and principles of what is known as Chapter 549 of the Laws of 1898, Legislature of Massachusetts, which refers to the matter of collecting indebtedness incurred for the so-called necessities of life.

Dr. Kennedy stated the provision of the Massachusetts Act, known as the Dubuque Bill, an said that the Secretary of New York County Medical Society was personally in favor of this line of action and would present it to the County Society at their next meeting.

On motion, the Committee on Legislation was instructed to indorse the Dubuque Bill and use its influence to pass such bill through the Legislature.

On motion, adjourned.

D. A. Myerle, M.D.,
Secretary.

BROOKLYN GYNECOLOGICAL SOCIETY.

Stated Meeting, October 6, 1899.

The Vice-President, R. L. Dickinson, M.D., in the Chair.

The minutes of the previous meeting were read and approved.

Dr. F. J. Shoop presented the paper of the evening on "Salpingitis." Discussed by Drs. Jewett, McNaughton, Gordon, Day, Dickinson, and Chase.

NARRATION OF CASES.

Dr. Polak: Mr. Chairman, I have a case of navel cord hernia to report. It is only interesting because of the extent of the hernia. This child was born on Friday morning at full term, so far as ordinary computation can be depended upon. The history of the mother was one of diabetes in one of her previous labors. This hernia was the size of a fetal head, and contained the liver and spleen, the large and small intestine and stomach; the two kidneys were in their normal position, and the two testicles were found at the inner openings of the inguinal canals; the child died in eleven hours. We decided it was inadvisable to attempt any operative procedure, and the autopsy justified it, as the abdominal walls were incompetent to cover the mass. The cord ran off to one side with one of the membranes of the cord; the other membrane covered the hernia; there was no skin covering. The abdominal wall was entirely defective. The size of the opening was a little less than that of a silver dollar, and the attachment of the liver was to the sac, the cord membrane and also the spleen. The liver had no blood-supply, except through the vessels in the cord.

The President: I would like to ask Dr. Jewett whether or not in his experience small umbilical hernias at birth are common. Of course the later hernia of the third to the sixth week is exceedingly common, thin skin covering the protrusion. This acquired hernia is due to a weak scar and it persists for months or years. I believe small congenital herniæ are exceedingly rare. I have been particularly interested because this year I have been amputating all cords at the skin margin, and I remember the fear in my early years of the ligature crushing or catching a loop of gut. Never having seen a small congenital umbilical hernia, and the literature of it seeming almost to ignore the technique of small umbilical hernia which the cord ligature would catch, or that the amputation would touch, I am interested to know what the experience of veteran obstetricians is on that matter. The large herniæ we all see occasionally.

Dr. Jewett: I am not able to answer that question definitely, Mr. President. I have seen very few navel cord herniæ. My impression is that the kind that is mentioned by Dr. Polak is extremely infrequent. There was a case reported, in Baltimore I think, in which a knuckle of gut was tied off and the child died.

I had occasion to see a case two or three years ago in which there was a large navel cord hernia the size of a duck's egg or larger. This was operated on by Dr. Fowler by the method of Olshausen, and the child made a good recovery. The operation was done at once, thus early the parts were comparatively aseptic, presumably. Very little chloroform is required in the new-born child.

I have a case which I can report in a word or two, but I would like to propound a question first: How early after labor the members of the society have seen fully developed systemic infection in a woman previously healthy? The duration of labor in this case was only eight hours. She was a physician's wife, a young woman, and in perfect health at the time of labor; there had been no albuminuria and nothing abnormal in the birth. She was attended by one of the most careful and skillful men I know; the number of examinations I do not recall, but they were very few. She was delivered at 4 o'clock P.M., and on the following day at 1 P.M., twenty-one hours later, she was seized with a violent chill; an hour later her temperature was 105° F. She died in about five days. At the autopsy, which was conducted by a trained pathologist, fluid pus was found in the peritoneum, but the extent of the peritoneal inflammation was not very great, and there was no adhesive peritonitis. The uterus was very carefully examined to find the avenue through which the infection reached the peritoneum. The uterus was cut in slices, and it appeared to be absolutely healthy. We were about to give up the search when it was suggested by Dr. Baldwin, who had been one of the consultants, that the cervix be divided a little more minutely, and then it was found that the avenue of infection was the right side of the cervix. It had entered at the right lower border of the cervix, where there was a slight ragged appearance, and had gone directly into the peritoneum. The pus yielded a pure streptococcus culture. The remarkable thing about the case was that the woman had a severe chill at the end of twenty-one hours, and a temperature of 105° in twenty-two hours. The streptococcus must have reached the peritoneum prior to that time by a few minutes or hours.

The President: I know Dr. Jewett has drawn attention to cases in which a three-days' labor will end with prompt sepsis, but there the infection has had time to travel from the time of the first examination to the end of the labor, and general infection has occurred.

Dr. Polak: I would like to have some light thrown on the cause of those cases. We lost a case at the Post-Graduate about three weeks ago which is a fairly close second to Dr. Jewett's; she died more quickly, but she did not have as high a temperature within the twelve hours. This was a precipitate labor; the patient was in apparently good health prior to confinement; she had been watched for a month prior to her accouchement, and no vaginal examination had been made. She was confined in the morning of one day and at 9 o'clock that evening she had a temperature of 102°, and the following night she had a temperature of 106°, ascending pulse, and distended abdomen. We had a consultation and a posterior section for drainage was advised. There was apparently nothing in the uterus, which seemed perfectly clean. On posterior section a quantity of dirty pus with flakes of exudate was evacuated. This was estimated variously at from a quart and a pint to two quarts. The woman very promptly died. At the autopsy more of the same material was found. What caused it? In this case the uterus showed no evidence of infection; there had been an old laceration, but it was not disturbed, and there was no examination made. The patient had been under observation for nearly a month, and she was confined spontaneously, before the house surgeon had time to dress himself and get to her. The vagina had the usual tests that we make as to whether we shall do any douching or not; it was one of the negative cases; there was no bacteriological examination made at the autopsy.

Dr. Jewett: Such a case as that would look like streptococcic infection. It would be interesting to know whether there was any exposure within seventy-two hours prior to the development of the trouble, prior to labor, perhaps. The usual conditions present in the vagina of the gravid patient are pretty nearly proof against infection; infectious material introduced into a vagina in a healthy condition will be destroyed in less than seventy-two hours. It is possible the introduction of septic matter just before the labor at the time when the blood is beginning to come down might lead to infection. Auto-infection I do not like to admit, though I suppose we must.

The President: You cannot be sure that the woman did not examine herself?

Dr. Polak: No; she had not very much chance for that sort of thing.

Dr. Chase: A case came under my observation in the last two or three weeks which was somewhat puzzling in its character for the reasons which I will state. A woman about 35 years old, who had never borne children, married, was a victim of tertiary syphilis, of which the lesion was present at that time. She complained of pelvic pain, which was so severe she wanted something done to relieve it, and was prepared to take all the risks of operative procedure. The abdomen was considerably enlarged, but was not distended to any considerable extent, being almost flat in appearance, and yet dullness and fluctuation were present. In the neighborhood of the spleen, and also over either flank, there was a tympanitic percussion note, and while there was general fluctuation, the exact state of affairs was somewhat uncertain. I was satisfied there was a cyst, but of the origin of it I was uncertain. I was told afterward that Dr. Jewett had examined the same case in another hospital and had expressed the opinion that it was a cyst, which helped me out somewhat in my diagnosis. The question in my mind was whether it was possible for an ovarian cyst to have flattened itself out to such an extent, or whether it was a broad ligament cyst. I opened the abdomen and removed the mass, which proved to be a multilocular ovarian cyst of the right side, flattened out, measuring on an average about three inches in thickness, diffusing itself practically over the whole peritoneal cavity, dipping down deeply into the pelvis and extending upward to the ensilage cartilage, and containing about one and one-half gallons of fluid. The only explanation I can offer for this flattening out was the tense condition of the recti muscles. I was curious to know whether any one else had seen an ovarian cyst of that shape. The patient made a good convalescence.

Dr. McNaughton: I have, Mr. President, operated on a patient with such a cyst, covering everything from side to side, shaped like an omentum, with several cysts, many more cysts than Dr. Chase mentioned,—a queer-looking specimen, about three inches thick antero-posteriorly.

The society then went into executive session, and the following officers were elected for the ensuing year:

President, Dr. Robert L. Dickinson.
First Vice-President, Dr. Joel W. Hyde.
Second Vice-President, Dr. William Maddren.
Recording Secretary, Dr. Frederic J. Shoop.
Corresponding Secretary, Dr. O. A. Gordon.
Treasurer, Dr. L. G. Langstaff.
Pathologist, Dr. Henry P. de Forest.

HOSPITALS FOR TREATMENT OF TUBERCULOSIS.

AN ACT

To allow cities of the first class to establish, equip, and maintain, outside of their corporate limits and with the approval of the

State Board of Health, hospitals for the regular treatment of the disease known as pulmonary tuberculosis.

CHAPTER 637, LAWS OF 1899.

The People of the State of New York, represented in Senate and Assembly do enact as follows:

SECTION 1. Any municipal corporation having a population, according to the last State census, of two hundred and fifty thousand or more inhabitants, shall have the power, whenever its Board of Health shall deem it necessary for the promotion of the health of its inhabitants, to establish, equip, and maintain, outside of its corporate limits, and at such place or places, within the State of New York and not within the corporate limits of any other municipal corporation, as may be determined upon under the provisions of this act, a hospital or hospitals for the regular treatment of the disease known as pulmonary tuberculosis.

2. Whenever any such municipal corporation shall desire to exercise the power conferred by this act it shall, through its Board of Health, select such locality outside of its corporate limits. but within the State of New York and not within the corporate limits of any other municipal corporation, as it may be considered best adapted, by reason of climatic and other conditions for the treatment of the said disease, and shall make application to the State Board of Health for the approval of the site so selected. Upon said approval being given the said municipal corporation may acquire title to such lands as its Board of Health may designate within the limits of the locality submitted to and approved by the State Board of Health. The provisions of law relating to the acquiring of private property for public purposes are hereby made applicable as far as may be necessary to the acquiring of title to said lands.

3. All hospitals or institutions now or hereafter established or maintained within the corporate limits of any municipal corporation for the regular or special treatment of persons suffering from the disease known as pulmonary tuberculosis shall be subject to the approval of the respective local Board of Health; special ward or pavilions for the treatment of cases of pulmonary tuberculosis in existing hospitals shall be provided with separate nurses, cooking utensils, washing and plumbing facilities.

4. This act shall take effect immediately.

Brooklyn Pathological Society.

OFFICERS.

Dr. Charles C. Henry,	*President*
Dr. Jacob Fuhs,	*Vice-President*
Dr. Henry P. de Forest,	*Secretary*
Dr. Archibald Murray,	*Treasurer*
Dr. Jerome B. Thomas,	*Librarian*

COMMITTEES.

Committee on Microscopy

Dr. Raymond Clark, *Chairman*
Dr. Ezra H. Wilson
Dr. Willard G. Reynolds
Dr. C. Eugene Lack
Dr. Louis C. Ager

Committee on Membership

Dr. Henry A. Alderton, *Chairman*
Dr. Z. Taylor Emery
Dr. Elias H. Bartley

Committee on Library

Dr. Jerome B. Thomas, *Chairman*
Dr. Heber N. Hoople
Dr. John R. Stivers

1899-1900.

BROOKLYN PATHOLOGICAL SOCIETY.

407th Stated Meeting, Thursday, October 12, 1899.

The President, CHARLES C. HENRY, M.D., in the Chair.

Program provided by Section I., Raymond Clark, M.D., Chairman.

Program.

President's Address, Dr. Charles C. Henry. Page 40.

Paper: "Malignant Endometritis; Report of a Case, and Demonstration of Microscopic Findings," Dr. J. M. Van Cott, Jr. Discussion by Drs. Jewett and McNaughton. Page 43.

Paper: "The Pathology and Treatment of Hallux Valgus," Dr. Russell S. Fowler. Page 48.

Paper: "Aneurism of the Aorta, with Demonstration of Specimen," Dr. W. A. Payne. Discussion by Dr. Van Cott. Page 49.

"Report of a Case of Hernia of the Umbilical Cord," Dr. John O. Polak. Discussion by Drs. Jewett, Webster, and Van Cott. Page 52.

Specimen: "Fibroma of the Uterus with Complications," Dr. Raymond Clark. Discussion by Drs. Jewett, McNaughton de Forrest, Van Cott, and Maddren. Page 54.

Specimen: "Placenta Succenturiata," Dr. Charles C. Henry. Discussion by Drs. Jewett and Bartley. Page 56.

THE PRESIDENT'S ADDRESS.—DR. CHARLES C. HENRY.

Fellow-Members of the Brooklyn Pathological Society:

It has been your decision that the government of the Society, for this year, be placed in my hands.

I feel that it is not only a privilege but a pleasure to accept the duties and responsibilities thus entrusted to me. By your action you have conferred upon me an honor that I highly appreciate; and I will endeavor to conduct the affairs of the Society in a manner that will merit your commendation and bring it lasting credit. It will be my earnest endeavor, and I will spare no effort to instil into every member an increased interest; and I now appeal to every member personally to take hold of the work and do all he can to intensify the interest of the meetings. The system of sections suggested by Dr. de Forest was adopted for the purpose of enlisting the personal interest of every member. It is intended that those connected with a given section shall have an especial interest in the subjects of the meeting led by it, and that they discuss the subjects as fully as possible; at the same time others are privileged to present such specimens as they may have and to enter into the discussion of all presented. This system has been fruitful, and I trust every member will avail himself of its advantages in the future.

My predecessors have merited your hearty commendation and thanks for their excellent work; they have labored industriously, and with a large measure of success. With the aid of the members, they have presented for your examination and discussion much and varied pathologic material that has been of inestimable value; and that, too, under great inconveniences; in that they had no permanent home; no place for the Society's library; not sufficient apparatus to enable them to show the specimens presented to their best advantage; and a lack of interest on the part of some.

In consequence of these disadvantages, some members, without doubt, were deterred from offering material; and others so indifferent, that they lost interest in the meetings and did not attend them. This combination of circumstances, therefore, made the labors of the officers arduous.

This year we have reason to expect that all this will be changed; as soon as that magnificent edifice devoted to Medical Science, our new library building, is completed (and it will be very soon) we will have a permanent home, where we can have access to our library at any time; all the apparatus necessary for properly exhibiting pathological material so as to obtain a rapid and at the same time a clear conception of it, a full attendance of the members and an individual interest in the work that will induce a spirit of emulation, which will develop the Society, and not only make its work individually instructive, but of influence throughout the world for the benefit of suffering mankind.

To the physician, the importance of the study of pathology cannot be overestimated; upon it depends, largely, the necessity for the medical man. Were there no pathological conditions there would be but little need for him; his field would be narrowed to slight functional disorders. How necessary, is it then, that he should have full knowledge of pathology, that he may practise his art with the intelligent skill necessary to distinguish deviations from the normal. The field is large and full of intensely interesting subjects; there are the various tumors and cysts; there are the degenerations; there are the nutritive changes causing atrophy and hypertrophy, and all the changes from cloudy swelling to gangrene; there are the changes of the fluids of the body, the various inflammations of the bony and the common connective tissues, the blood-vessels, the heart and other organs, the mucous and serous membranes, the lymphatic structures, the brain, spinal cord, and nerves, the non-vascular tissues, syphilitic pathogenesis, septicemia, pyemia, and the parasites. All of these enlist our interest and study.

By the earnest and enegetic efforts of those world-renowned workers who have devoted themselves to this work numerous pathogenic micro-organisms have been discovered. The study of these organisms began over two centuries ago, but it never attained importance until those well-known bacteriologists, Lister, Koch, and Pasteur, demonstrated its etiological importance. More recent investigators and surgeons have shown conclusively the rôle these organisms play in disease. There still remain pathological changes, the cause of which is as yet undiscovered; it will require diligent search to find them. Some of us may be the fortunate discoverers. It is not possible for many of us to do much in this direction, but it is possible for us to apply the knowledge that is furnished us, and to strive to acquire such knowledge and means as will enable us to prevent and intercept bacterial ravages, whenever and wherever we find them; this is the object of this Society and of these meetings, and it is incumbent upon us to bring here subjects that they may be elaborated. Each and every member can, once a month, devote a little of his time in the preparation of specimens, or in preparing himself to discuss those that are presented.

It is our privilege, it is our duty to mankind to follow up this study. If any member hesitates about bringing in any material, because it is a subject which has been discussed here, let him not overlook the fact that *repetition* is *review*. There cannot be too much discussion on any pathologic subject; the field is large, and the subjects numerous and varied, for this very reason, it is necessary for us to discuss them repeatedly, that we may become familiar with them. Then too there is always some variation, some characteristics, that are brought out that did not appear in former discussions. No matter how similar one subject may be to another, the history associated with it differs in some respect; therefore, I hope every member will enter into the work with earnest thought and a deep interest, and endeavor to make every meeting replete with interest and instruction.

Many valuable specimens are brought before us which afterward pass beyond our reach. In order that we may have the facility for examining and studying them, it is desirable that we have a Society repository, where members may place them, with full credit to themselves, and where all may have access to them; therefore, I will recommend that action be taken, with a view of inquiring into the feasibility of the plan, and if practical, to adopt it and put it into effect.

MALIGNANT ADENOMA OF THE UTERUS. REPORT OF A CASE AND DEMONSTRATION OF MICROSCOPIC FINDINGS.

Dr. J. M. Van Cott, Jr.

My apology for reporting this case lies in the fact that it brings up a question which to-day is being much discussed both here and abroad. About eight years ago Schwalbe was the first to call attention to this condition. He was followed by Abel and Amann and since then a host of other men together with a large number of gynecologists, who are engaged in the technic of the microscope for gynecological work alone, have worked on this material. There have been a number of cases in Brooklyn, three of which have come under my notice, and this last one is so striking and so recent that I bring it up this evening.

Endometritis malignans or *Adenoma malignans* consists in a hyperplasia of the endometrium with adenomatous degeneration of the glands—thickening of the endometrium either circumscribed over a small area of the mucous membrane of the uterus, or diffused and covering a considerable extent of mucous membrane. With the hyperplasia of the mucosa comes a tendency of the glands to dip down into the myometrium; the lymph spaces of the myometrium become invaded by these follicles which press downward and after a time some of them seem to break away from their original matrix pass into the lymph spaces, possibly the veins, become isolated and separated from the mucosa and ultimately form colonies or foci by themselves. There is no symmetry; at any rate in the early stage of the disease asymmetry is present; therefore, it cannot be included in the list Heintzmann has made.

The gross findings in such a uterus are somewhat as follows: The os is oftentimes patulous, the mucous membrane is obviously of a soft, velvety consistence, the sound, when passed over the mucosa, will show a thickened and very soft, succulent membrane; the body of the uterus is almost always of a spherical shape with a peculiar elasticity of touch. These things are characteristic: the sound on the one hand discovering the change in the mucous membrane and the digital examination on the other the elasticity with the tendency to spherical form of the organ.

Clinically, together with these are associated metrorrhagia which is likely to recur and which tends always to become greater; oftentimes there is almost hydrorrhea, a large amount of watery fluid which has a tendency to escape from time to time; menstruation, therefore, is prolonged by the watery discharge which follows after the hemorrhage has taken place.

The patient we have to consider this evening, was a cook in my house; she was a typical Southern darkey. She suffered for several months two years ago with profuse bleedings. She had more or less dysmenorrhea and finally came to me for relief. I sent her to St. John's Hospital, where Dr. Bristow curetted her. For the balance of the year she did well. After that hemorrhage began to recur slowly at first, but later more rapidly until she came to me again and told me she thought her condition was serious, for she was losing so much blood she was unable from weakness to do her work. She was then 39 years of age and had been a widow for twenty years; she had had six children, three of whom had died; there was no complication in the course of the births and presumably everything was in a normal condition.

I examined her and found such a state as I have described—a patulous os, a uterus that was elastic; the sound on entering the uterine cavity was easily felt to pass over velvety mucous membrane. I then referred the case to Doctors McNaughton and Jewett and they operated. The material removed was immersed in formalin and Müller's fluid and a section made. I show you here the result of the microscopic examination.

I have marked the slide in such a way as to demonstrate the normal thickness of the endometrium. There is a large amount of hyperplastic tissue and then I direct your attention to the fact that away out, in the myometrium you can see that there is a line of demarcation well formed between the mucosa and myometrium. This line here is drawn to indicate the lymph space in which will be seen one of these follicles. Mr. Randolph of the Hoagland Laboratory made the micro-photograph from this section. You will see it has the characteristic membrane lining the spaces and this has all the characteristics of a follicle that is becoming adenomatous. Sometimes these are large in number but more times there are only a very few of them to be seen. These follicles have a distinct tendency to travel outward into the myometrium and then to the perimetrium and finally at last get into the tissues of the pelvic cavity, giving rise to a distinct carcinomatous condition.

This is a growth which is malignant; but it is a growth which is malignant only after a certain period has elapsed; in other words, if the condition can be diagnosed before the follicles have grown and traveled through the myometrium and out into the pelvic tissues, it is a benign growth, can be removed and will not recur.

That brings up the second point of interest, and that is, how can such diagnosis be made; is there any manner by means of which the condition can be determined with sufficient accuracy to warrant hysterectomy? Some years ago I got a scolding for saying in one of these meetings that I greatly preferred to see such a uterus removed under the belief that the condition existed and not find it, than to see a uterus removed in which the condition was present. This is because of the dreadful state of affairs brought about by these malignant growths when once they get into the peritoneal cavity. I believe that where curettage is done where these conditions have been found, with the succulent mucosa, with the spherical uterus and elasticity together with metrorrhagia considerable in amount—where in the hands of a competent man that has been accomplished and the curettage been examined and contains some follicles that are adenomatous, I believe the case should be left alone; but if after a time the same condition is present and you get a succulent mucosa and a large, soft, elastic uterus and hemorrhages, then I think you have one of these cases and it is a fair question—especially if the patient is beginning to run down from loss of blood—it is a fair question whether you have got this thing or not.

DISCUSSION.

Dr. Charles Jewett: Mr. President, we are greatly indebted for Dr. Van Cott's study of this case; it teaches an interesting, instructive, and very important clinical lesson. Assuming that this growth is carcinomatous or is becoming so, the diagnosis is extremely difficult for the reason that carcinoma of the body of the uterus has very little tendency to invade the perimetrium or the cervix. There are no visible evidences, therefore, of the disease in the cervix, and as the uterus remains movable for a considerable length of time the clinician is apt to overlook the condition of things; in fact the only reliable diagnosis is made by the microscopic examination. The condition is a very important one, for the reason that metastasis is more likely to occur in carcinomatous disease of the body than of the cervix uteri. The important lesson which this teaches is that the hemorrhage being present, particularly with an enlarged uterus, it is the duty of the gynecologist to pursue the case, keeping it under close observation until a diagnosis can be made. The scraping should be examined and even though a negative result is obtained as happened in this case, the patient is still not out of danger and should be kept under close observation until a diagnosis of malignant disease is made out, or it is proved to be due to some other cause.

Dr. McNaughton: Clinically, I happen to have seen the three cases which Dr. Van Cott reports and had a hand in the operation. They were all interesting cases; they were all serious cases; all cases in which it was certainly proper to do a hysterectomy, but against that I have to report the advising of hysterectomy in several other cases where it was refused by the patient, and those patients have gone on and done very well since that time. This is several years back; perhaps pathology is more accurate at the present time and such advice would not be given. Those patients with conditions clinically not different from those we are told about—after frequent curettings did very well.

The watery discharge mentioned by Dr. Van Cott is a condition not infrequently found in syphilitic endometritis—not only is it watery, but its odor is quite distinct, and after one has noticed that a few times he would be able almost to make a diagnosis of syphilis from that peculiar discharge. In those cases after a little time the normal menstrual flow becomes less; an atrophy seems to take place, or something of that sort, so they suffer very little from profuse menstruation. There is also that peculiar discharge noticed in women about the menopause or a little after the menopause and ordinarily described as senile endometritis. I think the diagnosis a difficult and important question to decide and one that cannot receive too much attention.

Dr. Jewett: Will Dr. Van Cott tell us what has been the result of his examinations of the glands in cases of carcinoma of the uterus? A good deal of importance has been attached to the enlarged glands. Some authorities within a few years have advocated a practice, somewhat analogous to the operation on the breast, of taking out the lymph canals and glands in connection with the uterus. We now know that the glands, although enlarged, are not necessarily infected with the carcinomatous disease, and I think Kelly has abandoned that. I understand he attaches more importance to removal wide of the mark and well away from diseased structure and he gets better results so than by removal of the glands which is almost practically condemning the patient to death primarily.

Dr. Van Cott: I do not think these are primarily cases of carcinoma. I have never seen a case of this kind where I thought there was simple hyperplasia of the glands of the endometrium with their final progressive growth into the myometrium where I felt able to say there was true carcinoma in the glands. In ordinary carcinoma it would be my judgment, that to operate in such cases—although I have seen some at the autopsy-table where the involvement of the glands there would be as elsewhere—to operate would be simply hopeless, for certainly some of the glands must remain in with the cells of the carcinoma itself. But I wish to emphasize this fact: that I do not bring this up as a case of carcinoma; I do not think it is carcinoma; I think it is a case which may become carcinoma, but not until at a very late date and when these follicles have gotten through the perimetrium; it is not carcinoma but simply a destructive and progressive adenoma of the myometrium. After the glands get through the perimetrium, then ordinary carcinoma may develop, but the cases which now are in goodly number are described as either a malignant endometritis or a malignant adenoma, and I think a strong distinction should be made. That was one of my reasons for retaining the name malignant endometritis, so as not to confuse the meeting by assuming or by their finding it possible to assume that this was ordinary carcinoma.

Dr. Maddren: I had the misfortune to have one of the three cases that Dr. Van Cott mentions. In that case the clinical picture was, as he said, a uterus enlarged, the wall was thick and elastic, perhaps from an inch to an inch and a quarter thick and was similar to an orange with a very thick peel. We had the trouble with hemorrhage that is spoken of; the uterus was curetted and Dr. Van Cott examined the material and pronounced it a trouble of this kind—malignant endometritis. There was this complication: That woman had a small fibroid in the posterior part of the uterus and we were in doubt whether to put the hemorrhage down to the fibroid or to the other condition, and it is a condition which in making a diagnosis must be borne in mind. There were no other fibroids; the pathological specimen of the uterus after it was removed showed that, that there was only this single fibroid in the posterior wall, not a sub-peritoneal fibroid, but approaching toward that, so that it probably had nothing to do with the hemorrhage, or very little, and clinically the possibility of there being a small fibroid that would easily escape detection has to be borne in mind.

Dr. Van Cott: I am not satisfied in my own mind as to just how to make this diagnosis in all cases, and I hoped that the clinicians were going to state something which would make the thing more certain. A diagnosis can usually be made, however; I did it in this case and I do not claim any especial skill in this line. The doctor mentions cases where operation was refused and they went on and got well, but the time is not up, and he may find they do not get well, even if they fully recover one can never surely forsee this happy termination.

With regard to nomenclature, I think the tendency is to-day to call the condition malignant adenoma, and the more recent works use this term; malignant endometritis is a misnomer in the sense that there is no ordinary inflammation; you have no phagocytosis at all, no hyperplasia of connective tissue which could be regarded in any sense of the word as interstitial inflammation; personally, I think malignant adenoma is preferable and more scholarly.

HALLUX VALGUS: PATHOLOGY AND RADICAL CURE.

Dr. Russell S. Fowler.

Following a brief résumé of the etiology and pathology of hallux valgus, a modified operation for its cure was described.

A transfixion incision is made, the knife entering the plantar surface between the great toe and its neighbor one-half inch proximad to the metatarso-phalangeal joint and emerging on the extensor surface just external to the extensor surface of the great toe. The soft parts are divided in the line of the web. The great toe is adducted and the external lateral ligament divided, thus allowing complete inward dislocation of the toe and exposure of the enlargement on the head of the first metatarsal. A triangular-shaped piece of bone is removed including the exostosis. The parts are restored to their normal relationship and, if necessary, the extensor tendon lengthened through a second incision at a distance from the original one thus avoiding any risk of infection in the tendon sheath. The procedure is essentially that devised by Dr. George R. Fowler a number of years ago with the exception that one transfixion incision is used and the lengthening of the tendon is done at a distance. Uniform success, both as to functional results and freedom from pain has followed in all cases that the writer has had.

ANEURISM OF THE AORTA EXTENDING FROM THE SEMILUNAR VALVE TO THE THIRD LUMBAR VERTEBRA, WITH RUPTURE INTO THE PERICARDIUM. AUTOPSY THREE DAYS AFTER DEATH. SPECIMEN.

Dr. W. A. Payne.

The man, age 63 years, had been an inmate in Kings County Almshouse since 1895; previous to this his occupation was watchman. His health while in the institution was good and he never complained save of slight sleeplessness and cough. While working, on the day of his death, he felt something give way, and grasping his chest, he sat down in a chair. Here he was found dead a few minutes later.

Inspection.—The body was well nourished, well proportioned, and sinewy. The periosteum was thickened along the anterior borders of the tibiæ and several ulcers were found upon the legs. Three small ulcers also presented in the pubic region. No sores or cicatrices were found on the penis.

No results of pressure from the aneurism could be seen, nor was there clubbing of the fingers and incurved nails.

On removing the anterior chest wall the lungs were found separated by a considerable area filled with connective tissue and the pericardial area was increased. Nothing here indicated an aneurism.

Pericardial Sac.—When this was opened a clear serum exuded. I then removed a large clot of blood completely surrounding the heart. The pericardial limits were greatly increased, particularly above the heart, its inner surface was smooth and glistened, but it was not apparently thickened, nor was it adherent to either lung or heart.

Heart.—The heart was only slightly increased in size, its contents appeared of normal volume. The whole was depressed and shoved to the left.

Brown atrophy marked the heart muscle, it was of a deep red-brown color, soft and pliable.

The endocardium was pale.

While the greatest thickness of the left heart was 18 mm., that of the right was 12 mm.

The mitral and tricuspid valves showed slight changes, but were undoubtedly competent. Both the gastric and pulmonary orifices were increased in size, the leaflet of their valves enlarged, so enlarged in fact, that probably their function was well performed.

From the valve to its bifurcation the pulmonary artery was dilated, having for its mean circumference 13 cm. In the left anterior aortic valve was a perforation about 3 mm. long by one wide, situated near the free border and its attachment to the lumen of the vessel. It possessed a punched-out appearance. In the right anterior valve was a calcareous patch of small dimensions.

Aorta.—The whole aorta consisted practically of two large aneurisms, one of a fusiform nature, involving the greater part of the arch; the other of a cylindrical character involving the rest of the arch and the entire length of the vessel save its lower inch or so. The band of division was situated just to the left of the origin of the subclavian and was but a ring of the size of the normal aorta separating the two great dilatations.

The first extended from the heart to this constricting ring and measured in its greater circumference 26 cm. This size was maintained for 10 cm. along its middle and gradually tapered off above and below.

On the anterior surface of this sac the rupture occurred. Previous to rupture a dissecting sac must have formed separating the inner from the outer aorta wall and depositing between them.

This separation began in a little slit 16 mm. long, convex upward on the anterior surface of the ascending portion of the arch and in the area of maximum dilatation. How long this pouch had been there I cannot say, but its edges appeared old. From the edge of this pouch to the point of final rupture through the remaining coats measured 4 cm., so the pouch could not have been deep. The outer line of rupture measured 3½ cm. The canal—for in this the pouch resulted—inclined downward, backward, and to the left. Scattered throughout this first dilatation were depressed calcareous patches. These appeared throughout both dilatations and the inner surface of the aorta was rough, uneven, patchy. It will be noted, however, that the best condition of the interior appeared to be around the point of final rupture..

The innominate artery given off from this portion was dilated throughout its length, measuring at its greatest circumference 13 cm. The subclavian, cartoid, and coronary arteries were of normal caliber, but their walls were thickened.

The second, or the cylindrical aneurism extended from the constricting ring to the third lumbar vertebra. Its average circumference was 10 cm., its greater circumference 14 cm. Throughout it is calcareous and this degeneration continued into the common iliacs. With it I found the cœliac axis dilated to the submesenteric arteries.

At the level of and eroding the fourth thoracic vertebra was a small sacculation.

Lungs.—At the apices I found tuberculous areas consisting of cheesy tubercles. Corresponding to these areas and along the dorsal surface of each lung the pleuræ were adherent, above to the chest wall, below to the tissues of the aneurism.

The rest of both lungs showed passive congestion.

Spleen.—Enlarged, congested.

Kidneys.—Both showed the changes of a chronic purulent nephritis. The left was somewhat degenerated by fat as well as connective tissue, while the right presented dense pyramidal areas of a chronic purulent infection.

Liver.—This was somewhat enlarged, irregular, and cirrhotic bands of connective tissue were evident throughout.

Stomach and Intestines.—The brim of the intestinal tract was darkened and the stomach presented the lesion of a chronic gastritis. The pancreas and the remaining abdominal organs were quite normal.

The *head* I was not allowed to open.

The *trachea* was somewhat corrugated by the presence of the aneurismal pouch. The patient's cough might have been due to this or to pressure on the esophagus or lungs, or to the tuberculous lesion.

Conclusion.—So gentlemen I believe the man first had syphilis or a chronic purulent nephritis, or both, with an arterio-sclerosis of the vessels throughout the body. The chronic purulent infection involved all the vessels, the kidneys and the liver.

In the aorta the degeneration went further, and here we find atheroma with calcareous degeneration, resulting in a weakening of the walls and the production of an aneurism. Nearly the entire aorta, with the innominate, mesenteric, cerebral, and pulmonary arteries was greatly dilated and all without the production of symptoms, death finally resulting in a rupture into the pericardium.

DISCUSSION.

Dr. Van Cott: I quite agree with the doctor's conclusions as to the primary causes of this aneurism; certainly this man had syphilis and a productive inflammation present in most of the organs of the body, and he demonstrated the aneurismal change in the media of the great vessel. Orth has gone through a series of cases to show how the vessels come to become atheromatous in that way; summed up briefly it appears that there is in the vasomotors a change consisting of small round-cell infiltration around their peripheries with the final endarteritis obliterans, fatty degeneration, loss of yellow elastic and other tissues in the vessel and a final weakening, widening, and production of the aneurism, but what is remarkable in this case is the extent of the dilatation.

HERNIA OF THE UMBILICAL CORD: REPORT OF A CASE.

Dr. John O. Polak.

A patient of mine has had four children, the youngest three years old; she had convulsions with the first child and had glycosuria. I have seen her for three years and she has had transient glycosuria, but with control of diet it entirely passed away. This pregnancy was without any complications and she was delivered spontaneously and rather precipitately of a child on September 29th. It was a male child and weighed seven pounds. There was a defect of the abdominal wall the size of a silver dollar and through that protruded an umbilical hernia, which contained the intestines, stomach, liver, and the spleen. The only organs that remained within the abdomen were the two kidneys, which were in their normal condition, and the two testicles which were at the inner abdominal rings. It was decided not to operate on the case because the abdominal walls were deficient and we believed we could not replace the viscera and get any satisfactory result. That this was a correct conclusion was demonstrated at the post-mortem examination where, after clearing away the sac and taking away these structures piecemeal, I was unable to crowd them into the abdomen and bring the edges of the abdominal walls within an inch of one another. There were no supernumerary organs.

A most interesting query is, where could the liver have gotten its blood-supply? In the examination I was unable to find any vessel of distinct size and it apparently received its blood-supply from the sac which was one of the membranes of the cord. The extent of the hernia and its etiology is of interest.

DISCUSSION.

Dr. Jewett: This is an extremely interesting case, Mr. President, because a hernia so large as this is unusual. Most of these cases are of lesser magnitude and are operable. The best method of treating them is by the laparotomy advocated and practised by Virchow. An elliptical incision is made, the immediate coverings of skin and cord are removed, the viscera reduced and the abdomen closed; good results have been obtained by that method. Two or three years ago I saw a case in which the tumor was as large as an egg. This case I advised referring to Dr. Fowler, who operated with a successful result and the child, so far as I know, is still living.

Dr. Webster: The case Dr. Jewett has just reported in Dr. Fowler's hands was a child fourteen hours old at the time of operation. In addition to the omphalocele there was present a sacculated condition of the intestine with complete occlusion, the small intestine communicating with the sac by means of two valve-like openings which were permeable; they, however, did not permit any of the contents of the sac to back into the intestine. That was successfully resected and an end-to-end anastomosis performed, the child being anesthetized with a very few drops of chloroform.

The meconium flowed all over the field of operation, but primary union resulted and I believe the child is still living.

The ileocecal valve was not included in the resected portion.

FIBROMA OF THE UTERUS, WITH COMPLICATIONS. SPECIMEN.

Dr. Raymond Clark.

This specimen is a uterus of a woman of 29 who was four-months' pregnant. The case occurred in Dr. Pilcher's service at the Seney Hospital about two weeks ago. The patient was 29 years of age; she is white and married, her previous history is negative, menstruation had always been regular and about the usual amount. For the last two or three years she noticed a tumor growing in the lower part of her abdomen. As the tumor grew larger—and it was about two years in developing—she was cognizant of pressure symptoms, chronic constipation and a sensation of weight in the pelvis. At the time she entered the hospital she was well nourished. There was a brownish discharge from the vagina and she had not menstruated for four months before she entered the hospital; she menstruated regularly previously. Pregnancy was not suspected.

Upon examination a tumor was found reaching from the umbilicus into the pelvis and a clinical diagnosis of fibroid uterus was made. A laparotomy was done and the uterus and tubes taken out with the ovaries. Upon incising the tumor we found a uterus, four-months' pregnant.

She had had no nausea and the breasts were about what you would expect; there were practically no other changes and the only symptom of pregnancy was her stoppage of menstruation and that would be very easily accounted for with a tumor of that size in the pelvis. The traveling of that ovum from the ovary through the tube and into the uterus must have been difficult for the tubes were markedly distorted, were bound down by adhesions, and the uterus measured from four to six centimeters in thickness. The patient had no hemorrhages from the uterus as we often find in these cases. The mucous-membrane lining of the uterus is apparently in a healthy condition, though we usually find in a fibromatous uterus of that size a much congested and inflamed endometrium.

DISCUSSION.

Dr. Jewett: Pregnancy not infrequently occurs in fibromatous uteri, as I have had occasion to know to my sorrow. They are very troublesome cases, particularly when they go into the later months. I remember a case in which there were a number of myomatous growths in the uterus; the woman delivered probably towards the end of gestation and in which the only means of controlling hemorrhages after delivery was the faradic battery. A doctor stayed with the patient all of one night maintaining contractions by the faradic battery, all other attempts at preventing hemorrhage having failed.

I have operated in two cases in the ninth month; one of them is a case, the photograph of which I happen to have in my pocket, a case operated on in June last. I operated in the beginning of the ninth month as the patient was not in good condition, there was enormous edema of one leg and the patient was becoming exhausted. I did hysterectomy with a good result; the mother and child are still living. I remember a case in 1897, in which the specimen after removal weighed eight pounds; that would imply a uterus weighing two pounds—the tumor must have been three times as large as the uterus. The only way by which I could get the uterus out was Doyen's method of tilting the tumor over the pubic brim.

Dr. McNaughton: I should think that even in a tumor that contained a fibroma, if the patient had previously menstruated regularly and she stopped and there was no appearance of menstruation whatever, you might reasonably suspect pregnancy; such patients are very apt to menstruate, menstruate profusely in most cases, and in a married woman previously menstruating regularly and stopping suddenly and completely as this patient did, particularly if the growth gave more symptoms, that it would be fair to suspect pregnancy.

Dr. Jewett: The doctor would not attach so much importance to that point I presume in subperitoneal fibroids.

Dr. McNaughton: I should in any fibroid.

Dr. de Forest: It has been my fortune to see several of these cases which present some facts of interest. You remember several years ago the method of Apostoli was much in vogue, the use of the faradic current to check the growth of fibromata. In the Seney Hospital at the time was a patient that had been treated systematically by this method with apparently good results. The tumor was a large one and she improved so much and her menstruation became more or less regular—it had been very profuse—that she was discharged from the hospital. She came back at the end of a year; the tumor apparently had increased considerably in size and it was decided to do an operation. The uterus was removed and in addition to the tumor there were found two rather remarkable things. In the first place we found a piece of the Apostoli probe two inches long buried in the uterine myometrium, it had been there for over a year. In the second place we found a fetus of four-months' development which evidently had been dead for a long time. There was no possible way for it to be born and its nutrition had been impaired to such an extent that the child died, remained in the uterus and became badly macerated.

PLACENTA SUCCENTURIATA. SPECIMEN.

Dr. Charles C. Henry.

This is a case of placenta succenturiata where the lobes are connected with a band and a few blood-vessels, but there are two distinct lobes here which show the character at the time of delivery.

The patient was weak, had albuminuria and I was very much afraid all during the time she was under my care of uremic convulsions. Fortunately, at about the eighth month of gestation she delivered a living baby, which lived twenty-four hours. The case went along as usual with such cases, with recovery after a time.

DISCUSSION.

Dr. Bartley: This reminds me of a case that I had somewhat similar to it, so far as I can judge, admitting that I was not very clear in my diagnosis. A woman had repeated hemorrhages and was known to be pregnant, but the diagnosis had been made by two physicians who had preceded me in the case, that she had miscarried and that probably she would get along all right, but she had repeated hemorrhages after this miscarriage and I assumed that part of the placenta had been left behind in an exceedingly tolerant uterus; in fact I scraped it with a rather sharp curette and the lady said it gave her absolutely no pain, so I thought I had entirely cleared the uterus of any placenta. I had taken away a considerable portion and then attempted to irrigate and noticed that the irrigator did not pass as high up into the uterus as I expected it ought to from the size, yet I irrigated pretty thoroughly and the hemorrhage entirely ceased after this curettage; I had a rather small irrigating bag and wanted to use more water, so I took out my irrigator and attempted to put it back. As I did so, I pushed on it a little and there was a gush of amniotic fluid and I had to go on and complete the labor and secured a dead fetus of about four months. When I obtained my product of conception, the placenta seemed to be perfect and I do not know where I got that first placenta from. Perhaps it was one of this character. I suppose it was a case of partial placenta previa, with double placenta, that part of one placenta had been down over the mouth of the uterus or perhaps in the cervix and I scraped that away and irrigated and stopped the hemorrhage, but afterwards found something else.

Dr. Jewett: I recall a case, Mr. President, in which I was called in to attend an Irish woman in a tenement-house who had been delivered a few days before by a physician who brought a baby into the world and put on a bandage and, as he supposed, left her all right, but I delivered another one.

HENRY P. DE FOREST,
Secretary.

SECRETARY'S REPORT FOR THE YEAR ENDING JUNE 8, 1899.

For the Secretary to give a summary of the work of the Pathological Society for the year 1898 is, in many respects, a difficult task, for the forces of the Spanish War and of Typhoid Fever have combined to keep him away from a majority of the meetings of the year. Through the courtesy of several members of the Society he is, however, able to give a fairly comprehensive summary of the work done during his absence, and he wishes at this opportunity to express his thanks to those gentlemen who have thus helped him in his work.

During the year that has just passed the Society has held eight meetings, and has had an average attendance of about twenty-five. The section system has ceased to be a novelty and has been productive of excellent results. Each chairman has responded in turn, and his associates have, for the most part, given him their hearty support.

A summary of the work of the year is as follows:

SUMMARY OF MEETINGS OF PATHOLOGICAL SOCIETY, 1898-1899.

398th Meeting: October 13, 1898. Lewis H. Miller, Chairman. Papers, 2; patients, 1; specimens, 13.

399th Meeting: November 10, 1898. Henry A. Alderton, Chairman. Papers, 1; patients, 1; specimens, 2.

400th Meeting: December 8, 1898. Jacob Fuhs, Chairman. Papers, 0; patients, 0; specimens, 5.

401st Meeting: January 12, 1899. Walter C. Wood, Chairman. Papers, 0; patients, 3; specimens, 6.

402nd Meeting: February 9, 1899. Frederick W. Wunderlich, Chairman. Papers, 2; patients, 0; specimens, 3.

403d Meeting: March 9, 1899. Archibald Murray, Chairman. Papers, 2; patients, 1; specimens, 6.

404th Meeting: April 13, 1899. John M. Clayland, Chairman. Papers, 2; patients, 0; specimens, 3.

405th Meeting: May 11, 1899. Heber N. Hoople, Chairman. Papers, 2; patients, 3; specimens, 26.

406th Meeting: June 8, 1899.

THIRTIETH ANNUAL MEETING.

Total for Year: Papers, 11; patients, 9; specimens, 64.

PAPERS READ BEFORE THE BROOKLYN PATHOLOGICAL SOCIETY, 1898-1899.

I. "The Manner in Which the Mastoid becomes involved in Middle-ear Inflammations." Dr. J. E. Sheppard.

II. "Separation of the Epiphysis of the Lower End of the Humerus, with Report of a Case of Anterior Displacement of the Epiphysis." Dr. Russell S. Fowler.

III. "Some of the Weak Points in the Physical Development of School Children." Dr. Harry S. Petit.

IV. "A Résumé of the Epidemics on Long Island." Dr. William Schroeder.

V. "The Other Side of the Antitoxin Question." Dr. J. Edward Herman.

VI. "The Physical Examination of the Stomach." Dr. Glentworth R. Butler.

VII. "Bacillus Pestis Bubonicæ." Dr. Ezra H. Wilson.

VIII. "Abdominal Injuries due to Blunt Force." Dr. Russell S. Fowler.

IX. "The Failure of Antitoxin in the Treatment of Diphtheria." Dr. J. Edward Herman.

X. "The Pathology of the Nasal Septum." (With microscope slides.) Dr. Jonathan Wright.

XI. "Necrosis of the Ossicles." (With specimens.) Dr. W. C. Braislin.

PATIENTS PRESENTED BEFORE THE BROOKLYN PATHOLOGICAL SOCIETY, 1898-1899.

I. "A Case of Hydrocephalus." Dr. J. R. Stivers.

II. "A Case of Tertiary Syphilis After Cure." Dr. W. N. Read.

III. "A Case of Specific Ulceration and Desquamation of the Leg." Dr. Charles C. Henry.

IV. "A Case of Traumatic Amputation of the Ear." Dr. W. C. Braislin.

V. "A Case of 'Frost-bite' Ulcers of the Ear." Dr. George H. Pierce.

VI. "A Case of Funnel Deformity of the Chest." Dr. Florence Leigh-Jones.

VII. "A Case of Extensive Laceration of the Eyeball, with Repair." Dr. J. W. Ingalls.

VII. "A Case of Atrophy of the Eyeball, Following Injury of the Cornu." Dr. H. N. Hoople.

IX. "A Case of Injury to the Eye Necessitating Enucleation of the Eye Twenty Years Later." Dr. C. P. Jameson.

CASES REPORTED AND SPECIMENS PRESENTED BEFORE THE BROOKLYN PATHOLOGICAL SOCIETY, 1898-1899.

A. ANTE-NATAL LESIONS:	
Fetus, five months' development	1
Total	1

B. CONGENITAL ABNORMALITIES:	
Horse-shoe kidney	1
Congenital membranous diaphragm of rectum	1
Total	2
C. POST-NATAL LESIONS:	
Circulatory System:	
Tubercular endocarditis	1
Ulcerative endocarditis	1
Total	2
Digestive System:	
Acute phlegmonous glossitis	1
Foreign body in esophagus	1
Catarrhal gastritis	1
Total	3
Genito-Urinary System:	
Kidney removed two months after implantation of ureters in rectum	1
Pyonephrosis	1
Chyluria	1
Wound of bladder during laparotomy	1
Cæsarian section for dystocia	2
Fatty degeneration of the placenta	1
Total	7
Muscular System:	
Gangrene of leg, following typhoid fever	1
Total	1
Nervous System:	
Tobacco poisoning	1
Reynaud's disease	1
Landry's paralysis	1
Hysterical paralysis	2
Total	5
Osseous System:	
Compound fracture of cranium	1
Rare form of dislocation of carpus	1
Amputated coccyx	1
Calcareous synovitis of knee	1
Compound fracture of fibula	1
Anchylosis of ankle-joint	1
Total	6
Auditory System:	
Menière's syndrome	1
Necrosis of ossicles	20

Infection of mastoid	6
Total	27
Visual System:	
Rupture of globe of eye	1
Total	1
Bacteria affecting man:	
Diplococcus intracellularis meningitidis	1
Bacillus pestis bubonicæ	1
Total	2
Tumors:	
Carcinoma, breast	1
Echinococcus cyst	1
Fibroma, uterus	1
Hydatiform degeneration of chorion	1
Lipoma, deltoid muscle	1
Cystoma, ovary, torsion of pedicle	1
Sarcoma, mastoid	1
Sarcoma, thigh	1
Tumor, of brain, sarcoma	1
Total	9

It is probable that with the beginning of the new year this Society will be installed in one of the section rooms of the new building of our parent society, the Medical Society of the County of Kings. There we will probably remain for an indefinite period of time. To provide for the natural growth of the work of the Society the Secretary would recommend that additional instruments, forceps, tenaculum, trays and towels be purchased. That a suitable lamp for microscopic work be procured, so that the microscope will be a routine fixture of every meeting of the future, and that the nucleus of a future pathological museum be provided by the purchase of a few specimen jars with enough formalin and alcohol to preserve such specimens as may from time to time be given to the society. These should be labeled and the name of the donor also given. The care of these should properly fall upon the chairman of the Committee on Microscopy, who should also be Curator, and thus be able to aid materially in this new departure.

At such a time as this, therefore, in addition to the material growth which we must provide for, let each member contribute his part to the increase of the purely scientific work of the Society. Let the legend of the "Chambered Nautilus" be borne constantly in our minds and—

Build thee more stately mansions, O my soul!
As the swift seasons roll!
Leave thy low-vaulted past!
Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast.

Respectfully submitted,

HENRY P. DE FOREST,
Secretary.

HISTORICAL DEPARTMENT.

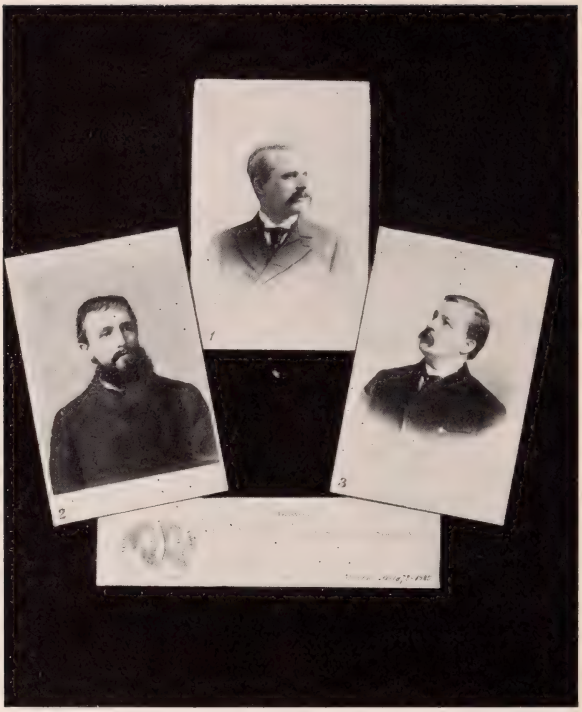
THE BROOKLYN ANATOMICAL AND SURGICAL SOCIETY.

Of the different medical societies that have been in existence in this city, and those that are still active, none has had the appearance of success stamped on its formation to a greater degree than was apparent at the formation of the above-named society. Why it was unable to maintain its existence is one of those peculiar features which seems to be associated with the life of the City of Brooklyn. This is not alone true of scientific bodies, but equally so of all organizations located in this city. The people do not appear to take the same interest that we find in other cities, and the medical men, forming, as they do, part of the community, seem to partake of this same feeling in everything that pertains directly to Brooklyn. This, to say the least, is not complimentary. There should be a certain amount of city pride. With over fifteen hundred physicians in active practise in this city, we should be able to maintain more than one large medical society. We hope for better things in the future.

This society was organized on March 20, 1878, as the Brooklyn Anatomical and Surgical Club, and incorporated September 6, 1879, as the Brooklyn Anatomical and Surgical Society. On October 22, 1879, the medical school of the Brooklyn Anatomical and Surgical Society was incorporated.

At the meeting held March 20, 1878, the following physicians met and agreed to form the above-named club: George W. Baker, G. W. Duryee, James L. H. Elmendorf, Z. T. Emery, Lewis S. Pilcher, George R. Fowler, Charles Jewett, Frank W. Rockwell, F. Le Roy Tetamore.

The certificate of incorporation contains, among other provisions, the following:



PRESIDENTS OF THE BROOKLYN ANATOMICAL AND SURGICAL SOCIETY.

1. LEWIS S. PILCHER, M.D.
2. FRANCIS H. STUART, M.D.
3. GEORGE RYERSON FOWLER, M.D.

The objects and purposes of said society shall be the promotion of the study of anatomy, surgery and pathology. The first board of trustees consisted of Drs. Lewis S. Pilcher, Francis H. Stuart, George R. Fowler, Z. T. Emery, George W. Baker, James L. H. Elmendorf, Charles Jewett, Frank W. Rockwell and George Wieber.

And the following physicians signed the certificate of incorporation: Lewis S. Pilcher, Z. T. Emery, Charles Jewett, Francis H. Stuart, George W. Baker, Frank W. Rockwell, Nelson B. Sizer and George R. Fowler.

Rooms were secured and fitted up for use at 28 Madison street.

During the few years the society was in existence the following physicians held the office of President: Lewis S. Pilcher, 1878-80; George R. Fowler, 1881-82, and Francis H. Stuart, 1883-85.

The following well known physicians of Brooklyn were connected with the society: Daniel Ayres, George W. Baker, E. S. Bunker, E. H. Bartley, John Byrne, Geo. W. Brush, Alex. S. Clark, Walter B. Chase, J. L. H. Elmendorf, Z. T. Emery, John N. Freeman, Geo. R. Fowler, J. N. Farrar, M. Figueira, Thomas R. French, Landon Carter Gray, Joseph H. Hunt, Charles Jewett, Frank Madden, Lewis S. Pilcher, James E. Pilcher, Frank W. Rockwell, T. M. Rochester, W. G. Russell, Francis H. Stuart, John C. Shaw, N. B. Sizer, Chas. W. Vrooman, F. Le Roy Tetamore, Benj. F. Westbrook, Jerome Walker, Geo. Wieber and H. F. Williams.

The society began, in 1879, the publication of its proceedings, known as the "Annals of the Anatomical and Surgical Society." These proceedings were published monthly in the form of a magazine, and edited by Charles Jewett, M.D. Associated with him were Drs. E. S. Bunker, Geo. R. Fowler, L. S. Pilcher and F. W. Rockwell. In 1881, the name was changed to *Annals of Anatomy and Surgery,* with Drs. Lewis S. Pilcher and George R. Fowler as editors, and continued to be published until 1884.

A further evidence that the society was an active body may be understood when we consider that the lectures and demonstrations at the rooms of the society were conducted by members of our profession, of which the following were a few: T. Gaillard Thomas, Edward L. Keyes, Landon Carter Gray, Edward C. Seguin, Oscar H. Allis, Corydon La Ford, William W. Keen,

Thomas T. Sabine, Henry B. Sands, Benj. F. Westbrook, John C. Shaw, John C. Dalton, James L. Little, Alex. J. C. Skene, Henry O. Marcy, Daniel Ayres, Lewis S. Pilcher, Edward M. Hartwell, Joseph D. Bryant, Ambrose L. Ranney, George Jackson Fisher, Alfred C. Post and George R. Fowler.

These physicians, we all know, are representatives of the different departments of medical science, and their lectures must have been of a high order, and had it been possible for the society to carry out that portion of its articles of incorporation relating to the organization of a medical school, it surely would have commanded the respect of the profession. According to its by-laws, this society was to maintain a museum of human and comparative anatomy, a laboratory for the study of the same, and a library which was not alone to consist of books relating to anatomy, surgery and pathology, but should contain a collection of portraits, engravings, busts, statues, etc., a provision not usually found in by-laws relating to medical societies. Let us hope that in the near future this society will be reorganized and with a better understanding of the work it intends to perform. It may meet with more success than at first, and become one of the permanent institutions of our city.

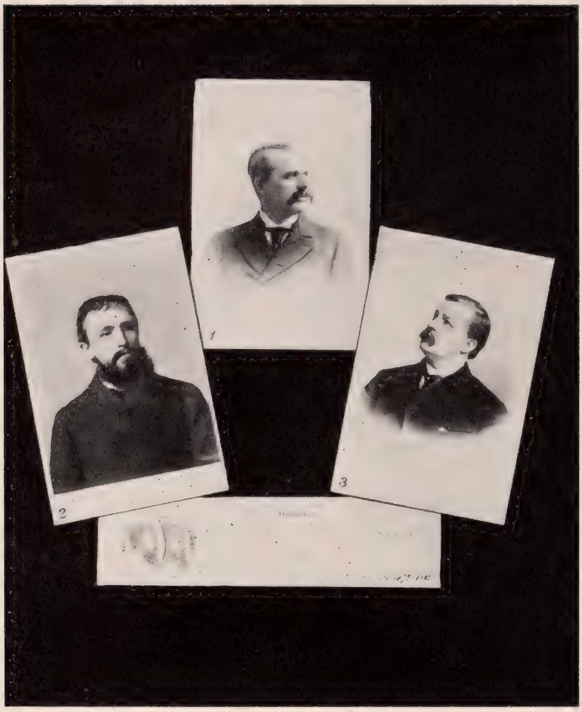
WILLIAM SCHROEDER, M.D.,
Secretary of the Historical Committee.

WILLARD PARKER BOWSER, M.D.

Dr. Bowser was born at Point de Bute, New Brunswick, February 22, 1850, and died in Brooklyn, N. Y., May 4, 1899. His father, Ebenezer Bowser, and his mother, Alicia Cahill, both of New Brunswick.

His early education was received at St. Joseph College, New Brunswick, and his medical education at the University City of New York, receiving the degree of M.D. in 1877. In the same year he began the practice of medicine in Canada, remaining until 1887, at which time he received an appointment in St. John's Hospital, London, England. In 1888 he returned to New York and entered upon the practice of his profession in this city, remaining until his death, connecting himself with the Medical Society, County of Kings in 1892. Dr. Bowser married Miss Elizabeth Chegwedder of Brooklyn, N. Y. This union was blessed by one child, Willard Parker Bowser, Jr.

WILLIAM SCHROEDER, M.D.,
Secretary of the Historical Committee.



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THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

EDITOR IN CHIEF: JOS. H. RAYMOND, M.D.
BUSINESS MANAGER: F. D. BAILEY, M.D.
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H. L. BARTLETT, M.D., WM. BROWNING, M.D. DAVID MYERLE, M.D.

VOL. XIV. No. 2. WHOLE No. 146. | BROOKLYN, N. Y., FEBRUARY, 1900. | Single copies 25 cents. $2 a year, in advance.

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

TYPHOID FEVER.

BY JOHN HARRIGAN, M.D.,
Attending Physician, St. Mary's Hospital, Brooklyn Borough, N. Y. City.

Report of a series of cases treated at St. Mary's Hospital.

During the three months that ended on September 30th of the year 1899, thirty-one cases of typhoid fever were treated in St. Mary's Hospital. The treatment employed was essentially hydrotherapy. When the temperature was above 102°, the patients were thoroughly rubbed with towels wrung out of water at about 70° Fahrenheit. The rubbing was kept up for about twenty minutes, and it was repated every four hours when deemed necessary. If marked depression was noted, and when reaction was slow, one-third alcohol was added to the water. If the patients complained of troublesome head symptoms, an ice-cap was applied to the head. If the temperature continued above 102°, in the intervals between the baths, a water-coil was applied to the abdomen; and when the temperature was above 103°, ice was added to the water. When the temperature fell below 101°, the coil was removed.

The water-coil seemed to exercise some control over the temperature. Its application was acceptable to most of the patients, and some slept quietly with the coil in position. There were two exceptions; in one it caused great discomfort, and in another it produced urinary strangury. In these cases, the coil was discontinued.

The baths, as administered, were generally acceptable to the patients; and, as a rule, effected a decided lowering of the temperature, the amount of the reduction varying from one to three degrees. A notable exception was that of a colored man, who came to us from Barren Island. On one occasion, his temperature before the bath was 103°; immediately after it was 105½°. The bath was repeated on the following day, with precisely the same result. Finding that the patient failed to react, warm water was tried, the effect of which seemed to be negative. No further effort was made to control his temperature, which continued high for five days, when it gradually declined, becoming normal eight days later.

In the case of three patients whose temperature was above 104° on admission, and who gave a history that seemed to indicate a sudden onset, a laxative was administered, and full doses of quinia were given while the diagnosis was undetermined. The quinia failed to produce any good effect, and its use was discontinued.

In the medicinal part of the treatment, we aimed to be guided by the teachings of the late Professor Armor, that is, "to generalize the disease, and to individualize the patient." To those of a phlegmatic temperament, hydrochloric acid was given; and those who seemed to be nervous, when the temperature continued high, despite the baths, received an occasional dose of antifebrin, and an opiate at night when necessary to induce rest and sleep. Strychnin was used in all these cases when the heart's action showed signs of weakening; in one instance, its continued employment caused slight muscular twitching, and spartine was substituted.

Whenever a patient's enfeebled condition demanded it, alcoholic stimulants were used. The amount seldom exceeded eight ounces in the twenty-four hours, given in ounce or half-ounce doses every two or four hours, according to circumstances. When the temperature was subnormal, beer and the various malt preparations were given, and, it is believed, with benefit.

The greatest possible care was exercised with regard to diet. Milk was used but sparingly, and never alone. It was given sometimes with equal parts of barley or rice water; and with equal parts of water, it entered into the preparation of farina gruel, which was much used. Equal parts of milk and water, to which egg albumin was added, formed the diet in special cases. Objection to milk when used alone is based upon its liability to form firm curds, which may irritate the inflamed intestinal glands; broths made from beef, mutton, or chicken, to which rice, barley, selected vegetables and spices were added, were employed in preference. Strict orders were given that all particles of solid matter and all fats should be removed from the broths by having them thoroughly strained and skimmed before they were served. When patients were able to take but a very small quantity of nourishment, beef-juice and cream with aerated water were given.

Specimens of blood from ten patients were sent to the Department of Health for the purpose of having the diagnosis confirmed by Widal's reaction. Negative results were received in eight cases, and the diagnosis was confirmed in two. However, the subsequent clinical history of the cases in which negative reports were received seemed to warrant a diagnosis of typhoid fever.

Rose spots appeared on thirteen patients; sudamina were not observed at all, their absence being presumably accounted for by the bath treatment. Epistaxis occurred in ten, and hemorrhage from the bowels in one. Sordes and dry-brown tongue occurred in one case that was complicated with pneumonia. This was the only instance in which this condition developed in the hospital. It was observed in four cases at the time of their admission. In the other twenty-six cases, the tongues of the patients were moist and clean during their entire illness: this result is believed to be due to correct diet and to strict attention on the part of the nurses. Vomiting occurred in ten cases. Diarrhea developed in fifteen cases, and constipation in eight. Bronchitis complicated the fever in four cases, pneumonia in three, and delirium tremens in two. A subnormal temperature was observed in fourteen of these patients. There was a recurrence of the fever in eight cases: in two it was slight, of short duration, and due to undetermined causes; in six it was severe, of long duration, and presumably due to reinfection. In four of the latter cases, the fever recurred once; in one, it recurred twice; and in one, it recurred three times.

These patients were singularly free from tympanites or meteorism, which freedom is believed to be due to a correct diet and to the systematic administration of strychnia. It is presumably safe to say that the greater part of the gases that collect in the intestines of fever patients is liberated from the disintegrating tissues. If, in addition to this source of supply, there are present in the alimentary canal substances liable to undergo fermentation in the absence of normal intestinal secretion, it is reasonable to expect that the gaseous accumulation will be increased. It is important, therefore, that the diet of typhoid-fever patients should contain not only the smallest possible amount of residue, but also that it should contain the least possible amount of substance liable to undergo putrid fermentation. As strychnia is known to exercise a tonic influence on the structure of the intestines, thereby tending to prevent a tonic relaxation and consequent distension, it seems reasonable to expect that a correct diet and the systematic administration of strychnia should constitute important factors in the prevention of tympanites.

When extreme mental dulness was observed and muttering delirium occurred, it was invariably found that the urine was scant. In this condition digitalis and acetate of potassium or of ammonium were given, and the patients were urged to drink freely of water to which cream of tartar was added. When the kidneys responded to this treatment, the mental condition always improved.

In three cases in which the recurrent fever seemed long-continued, the other typhoid conditions having subsided, Warburg's tincture (without aloes) with Fowler's solution was given, and it is believed that the effect was favorable. As it is admitted that typhoid fever and malaria may co-exist, it should not be denied that when patients are depressed after having passed through the former, they may take on the latter. A favorable impression made by the anti-malarial medicine referred to would seem to justify this belief. I regret that a blood-test was not made to determine the presence of malaria in these cases.

The leading special symptoms that occurred were treated as follows: Whenever vomiting set in, the diet and drink were limited to a mixture of equal parts of milk and water, to which egg albumin was added: this was given in small quantities at frequent intervals. A mixture of milk, water, and cream, to which oxalate of cerium and subcarbonate of bismuth were added, as recommended by Dr. Delafield, was also used. Two exceptionally severe cases that resisted other treatment were relieved by the judicious use of champagne and nitro-glycerin.

When diarrhea occurred, the broths and gruel were stopped, and beef-juice and cream were employed instead: for drink, a mixture of milk and water with egg albumin was given. When this means failed, bismuth and opium were administered. In one case, the diarrhea was not controlled, and the evacuations passed off involuntarily. It is, perhaps, needless to say that this case had a fatal termination.

When the patients were constipated, they were not interfered with for three, and sometimes for four days, when a simple enema was used; but when even a small quantity of gas was observed in the intestines, a half-ounce each of spirits of turpentine and tincture of assafetida was added to the water. In three cases, the patients being exceedingly feeble at the time, glycerin suppositories were used. The effect was satisfactory in two instances, and in one it failed; but it was observed that when an enema was administered a few hours later, the effect was prompt. This would seem to suggest the wisdom of preceding the enema, in special cases, by the introduction of a glycerin suppository.

Exceptional conditions presenting features not ordinarily met with, were present in five cases:

Case No. I—Male—age, 36 years. Had been drinking freely before present illness. When admitted to the hospital, he complained of pain in head, back, and limbs. Temperature, 103⅖°. Had epistaxis and diarrhea; liver and spleen slightly enlarged; abdomen tympanitic. On the third day after his admission, he developed violent delirium tremens. During the following two days, he proved to be a very troublesome patient. Opium and soda bromid were cautiously used to induce rest and sleep. On the third day his delirium was controlled; and two days later the tremor subsided. His subsequent history was uneventful.

Case No. II—Male—age, 39 years. Was taken sick ten days before his admission to the hospital. Illness was ushered in with convulsions, followed by delirium alternating with stupor. Suffered from incontinence of urine and involuntary action of the bowels. His fever temperature during these ten days, as reported by the physician that attended him, was of a quotidian, intermittent type, but not at any time higher than 102°. On admission to the hospital, his temperature was 101⅕°; pulse, 85; respiration, 30. On the following day, coma vigil, and subsultus were observed. The urinary and bowel disturbances subsided, but all the other symptoms continued with varying intensity for a period of thirty-five days. During this time, his temperature reached 103°, twice; 101°, four times; and during the rest of the time, its range was between 98° and 100°. While the symptoms and the course justify a diagnosis of typhoid fever, it seems as though the disease expended all its virulence within the cranial vault. The patient was discharged in good condition fifty-eight days after being admitted.

Case III—Female—age, 26 years. Was ill two weeks when admitted to the hospital. Had nearly all the symptoms of typhoid fever at the time of admission. The fever lasted three weeks. When the temperature had been normal for ten days, the patient developed post-typhoid mania. For the greater part of two days she refused food, drink, and medicine. She failed to recognize those about her. When spoken to, her answers were irrelevant, and her voluntary remarks were disconnected and meaningless. On the evening of the second day, after a good deal of coaxing, she was induced to take an opiate, but she vomited the medicine and spent a wakeful and restless night. On the evening of the following day, it was decided that sleep should be induced, if possible. A hypodermic injection of morphia was administered, and this was supplemented two hours later by a dose of paraldehyde. Under their combined influence she slept soundly. Next morning her mind was clear and continued so, although her convalescence was tardy.

Case No. IV—Male—age, 26 years. On admission, had temperature of 104⅘°. His symptoms indicated that he had reached about the end of the second week of typhoid fever. On the third day after his admission, his condition became exceedingly critical. Examination revealed congestion at the base of right lung; moist râles were heard all over the left lung and in the upper part of the right. Respiration, 58. Heart was weak, veins engorged, and entire surface of the body cyanotic. He was given nitroglycerin, and fluid extract of digitalis and oxygen were administered at regular intervals. On the following day, his condition seemed to be slightly improved. During the following four days his condition remained stationary. He then improved from day to day. On the eighth day from the onset of his pulmonary complication, his temperature began to subside; on the twelfth, it became normal, his lungs cleared up, and he made a good recovery. This patient received all the known heart stimulants. Sometimes they were given alternately and sometimes in combination. The continued use of digitalis, which seemed to be clearly indicated, caused his pulse to become irregular. The digitalis was stopped, and strophanthus and sparteine substituted.

Case No. V.—One of our pupil-nurses, who was ill a week before she complained or asked to be relieved from duty. When she came under observation she had most of the symptoms of typhoid fever fairly well marked, except that when her temperature was taken by mouth, it was found to be normal; but, on placing the thermometer in the axilla, it registered 102°. If we depended solely on the buccal cavity for information, this would be considered an afebrile case. During the succeeding twelve days, her temperature some time in each twenty-four hours was three degrees above normal, even though placing the thermometer in her mouth did not so record it. Her temperature by mouth was not at any time during her illness above normal; and frequently it was subnormal by mouth when it was 102° by axilla. Once only, it reached 104⅖°; during the remainder of the time, it ranged from 100° to 102°, yet in all other respects this patient's symptoms were quite severe. Her abdomen was exceedingly tender and painful, so much so that at one time it caused some anxiety. She complained of pain in the head and back, but the cause of her greatest distress was severe pain all along the posterior aspect of both lower limbs, the point of greatest intensity being the popliteal space. On the twelfth day her temperature by axilla became normal, and it continued so. All the other symptoms subsided, and her convalescence progressed without interruption.

Of these thirty-one cases, eighteen were males and thirteen were females. Twenty-eight recovered, and three died. The first case—a male, age, 43 years—that had a fatal termination, was sick three weeks before his admission to the hospital, at which time he was delirious. His temperature was 103⅖° by axilla. He was much emaciated and very weak. His pulse was scarcely perceptible and could not be counted, his tongue was dry and heavily coated, and his abdomen was covered with a rose-colored eruption. He was given $^1/_{32}$ grain of strychnia, ¼ grain of sparteine, and half an ounce of whisky every two hours. He seemed to rally a little, but at 8 P.M. his temperature was 105°. During the night it dropped to 97°. He had several hemorrhages during the following day, and he died forty-eight hours after he was admitted.

The second fatal case, a male, 22 years of age, and addicted to the use of alcohol, was sick ten days before his admission. He suffered pain in abdomen, head, back, and limbs. Had epistaxis and diarrhea. Spleen enlarged and tender. Temperature, 104⅘°. Pulse, 110, fairly strong and regular. During the succeeding thirty days, the disease ran a severe course. The temperature was very irregular, ranging from 99° to 104°. On the thirtieth day it became normal; but after twenty-four hours, it rose to 100°. It was again normal on the thirty-second day; on the thirty-third day, it rose to 100⅕°; and was again normal on the thirty-fourth day, when it rose suddenly to 102⅖°. On the afternoon of the thirty-fifth and the morning of the thirty-sixth, it was subnormal. The patient died on the thirty-seventh day after his admission to the hospital.

The third fatal case—a female—age, 29 years. Had been ill two weeks when admitted. She was then delirious, and continued so. She had suffered from pain in back, head, and limbs. Had epistaxis, vomiting, and diarrhea. Temperature, 100⅕°. Pulse, 115 and very weak. On the third day her temperature rose to 104°, and she died on the fourth day after admission.

For the twenty-eight recoveries, I feel that credit is largely due to skilful nursing, to the thorough coöperation of my associate, Dr. James T. Gallagher, and to efficient services rendered by a house physician of exceptional ability, Dr. John J. Collins.

DISCUSSION.

J. M. Van Cott: Recent investigation has shown that in many of the specific diseases a definite change in the ratio between the red and white blood corpuscles takes place, the latter becoming markedly increased in number; this phenomenon is called leucocytosis. Metschnikoff has shown that these increased cells have a peculiar property, which he denominated chemotaxis, whereby they become affected by chemical substances which stimulate them, and excite them to activity. This activity is demonstrated in two ways:—First, the extra-capillary migration of these leucocytes, or phagocytes, and second, an effort on their part to abolish or destroy the exciting substance. This process is called phagocytosis, and is supposed to play an important rôle in eliminating disease from the system.

Typhoid is an exception to this leucocytosis—there being none present in this disease, and therefore the explanation of its self-limitation is to be sought elsewhere. There is a recent theory that a change occurs in the serum of the blood, which becomes an antitoxin, and neutralizes the pathogenic effects of the typhoid organism. It is on this supposition that Widal bases his test. He drew a drop of blood from a typhoid patient and mixed it with a virulent culture in bouillon of typhoid bacilli in the proportion of one of blood to one hundred of the bouillon, and observed that after the lapse of half an hour the organisms had lost their motility and were clumped together in masses resembling zoöglea masses. From this he argued the bactericide property of the blood-serum.

This test is uncertain earlier than a week after the febrile condition has become established, and cannot be depended upon in dilutions under one to one hundred; for the reason that normal blood-serum has the same property to a limited degree.

In some forty tests made on soldiers from the Spanish-American war at the Brooklyn Hospital, I succeeded in getting this reaction for typhoid in all, and the cases went through a typical typhoid. In one suspected typhoid I failed to get it, and on examining the blood for Laveran's plasmodium malariæ found it. The case responded promptly to quinine.

The method of procedure is as follows: The finger or ear lobe is sterilized with alcohol, pricked with a sterile needle, and the drop of blood which escapes either collected on a slide, or in a capillary tube, and at convenience mixed with the bouillon. A "hanging drop" of the mixture is then examined with an oil immersion lens, when the immobilizing and clumping are seen gradually to occur.

Control test is to be made with unadulterated bouillon culture to certify the motility of the germs.

I believe the test to be highly diagnostic when all of the above precautions are strictly observed.

Ezra H. Wilson: Dr. Van Cott has told you that the nature of the Widal reaction is the clumping of the organisms and their loss of motility. I can only add to that some figures that I came across a while ago in looking up this matter in reference to the work that has been done in this country.

I believe that an important matter in determining the practical value of this reaction as a factor in diagnosis is the technic of its application: First, the reliability of the culture. We must be sure we are dealing with a culture of typhoid. Second, the virulence of the culture has something to do with it. Third, the age of the culture also is important. Fourth, a known proportion in the mixture of culture and blood, as Dr. Van Cott has said. Fifth, a fixed time element for the reaction. Conditions influencing the reaction are: the stage of the disease; the previous existence of typhoid fever; the race of the patient, and the existence of certain other diseases not related to typhoid fever. In my limited experience with this reaction as a method of diagnosis, I have not been as fortunate as some of the other observers, as judged by their published reports. I have found cases where the blood-serum of healthy individuals, if used in sufficient proportions, and who had no history of a previous attack of typhoid fever, would cause a prompt reaction. This is especially true of the negro race. I have found one case, a negro sailor, suffering from tuberculosis, with no history of typhoid, whose blood reacts promptly, and I have found cases of catarrhal jaundice in white persons with no history of typhoid, which reacted promptly. It is but fair to state, however, that in all these cases the reaction was only obtained by using low dilutions (1 to 10). Higher dilutions of the blood than 1 to 30 did not produce the reaction, except in the case of the negro with tuberculosis.

Dr. Van Cott has told you the method of collecting the blood-serum and weighing it, and I think that is better than collecting on a slide and paper. One fault of using the needle in the usual way is that no accuracy could be obtained between the proportion of blood and culture in that way. In Montreal they actually weigh the blood. The Health Department provides a square of aluminum foil on which is put the drop of blood from the finger or lobe of the ear. This is then folded in the form of a cylinder and sent to the laboratory. By the time it reaches the laboratory the blood is dry; it is unrolled and the blood flakes off from the smooth surface of the foil and is dropped into the pan of an analytical balance, and it is then weighed and the definite proportion by weight ascertained. That seems to work well in Montreal.

Of 12,000 examinations made at the Municipal Laboratory in Philadelphia, from about 10,000 febrile conditions, the common method of collecting on paper, mixing with bouillon culture and examination under the microscope, proved very satisfactory. Of 3475 cases reported by Cabot, 3434 (98.8 per cent.) gave a positive reaction. More recent statistics presented by Brill bring the total of reported cases up to 4879, of which 4781 (97.9 per cent.) gave a positive reaction. Widal and Sicard, 163 cases of typhoid, 162 positive reactions. Courmont, 116 cases of typhoid, 116 positive reactions. Chantemesse, 70 cases of typhoid, 70 positive reactions. Johnson and McTaggart, 129 cases of typhoid, 128 positive reactions. At a meeting of the American Medical Association in Philadelphia in 1897, the following was given as a summary of the views expressed by those discussing the serum diagnosis of typhoid fever: "Without being absolutely infallible, the typhoid reaction appears to afford as accurate diagnostic results as can be obtained by any of the bacteriologic methods at our disposal for the diagnosis of other diseases. It must certainly be regarded as the most constant and reliable sign of typhoid fever, if not an absolute test."

In a report of the experiences of the hospitals in Philadelphia, in the cases of soldiers with typhoid fever contracted in our late war with Spain, much light was thrown on the value of this method. At the University Hospital the reaction was found in 71 cases out of 92 (77 per cent.), in 20.7 per cent. it failed. In the Pennsylvania Hospital the opinion seemed to be that the method was useless. In St. Agnes' Hospital the results were unsatisfactory. Dr. Abbott reports 4154 cases, with 2.8 per cent. of error. In the year-book of Medicine, Drs. Stengel and Kneass have tabulated 2392 cases of typhoid, with 2283 positive and 109 negative, also 1387 non-typhoid cases, of which 22 reacted positively and 1365 negatively. The results are:

Reactions in typhoid cases	95.5 per cent.
No reactions in non-typhoid cases	98.4 per cent.
Correct results in	96.5 per cent.
Incorrect results in	3.5 per cent.

J. S. Waterman: I was very glad to have Dr. Harrigan disclaim responsibility for the word "severe" because, when I saw it on the program, I wondered how it was that he could have thirty-one severe cases, when the general run of our typhoids is fairly light. I think it is the exception in the experience of most of us now to see very severe cases. The kind of typhoid that we were brought up on in the medical schools we see very little of in actual practice.

I was very much interested in Dr. Harrigan's account of the treatment. It is the line that I have followed almost entirely. I want to say one thing about the cold coil that he speaks of using on the abdomen, the effect of which I have always liked, but in some cases, as he says, they find it very uncomfortable. One patient, upon whom I used it last year, complained for six months after he recovered from the fever, of still feeling that cold coil upon his abdomen.

The use of strychnia I have followed with excellent results, except in cases with diarrheal movements, and in those cases, I have felt that it was best to stop its use.

I have found the use of broths, in the way Dr. Harrigan outlined, of greater service than an entirely milk diet. In the cases in St. Mary's, and in my private practice, I have found good results from the use of broths, owing to the fact that there is much less tympanites in these cases, and much less tendency to diarrhea.

In the plain cases of typhoid that I have had, I have always found satisfactory results from the Widal-test, but in those cases which have been questionable, although I have had repeated tests made, I have not gotten the reaction, and yet these cases have, many of them, been clinically pure typhoid, in the course and symptoms, but not in the physical signs. In some of my cases there was no enlargement of the spleen, something that, up to two years ago, I had been taught did not occur—typhoid cases without enlargement of the spleen—but I have seen at least half a dozen cases without any appreciable enlargement of the spleen.

The epistaxis I have not seen as much of, or in nearly as large a proportion, as has occurred in Dr. Harrigan's cases; in fact, it has been quite rare. I should think in some cases, with marked cerebral symptoms, that it would be quite an advantage to have this free hemorrhage. Some cases—notably in Hare's recent work on the "Complications in Typhoid" have been reported as very much relieved by the cessation of the cerebral symptoms after copious nasal hemorrhage. The abdominal hemorrhage I have seen very little of; perhaps in 50 cases not more than two or three instances, and those not severe.

The tongue, in nearly all the cases we treated by hydrotherapy, has been moist all through, and in some of the cases perfectly clean; no coating on the tongue at all.

As to diarrhea, I think it is the exception to have a free diarrhea in the cases that I have seen. Many of the cases have been constipated, and comparatively few of them had any troublesome diarrhea.

Pneumonia is a complication I have not had or seen in any case of typhoid, excepting that recently I saw a case where, with the onset, appeared all the evidences of commencing bronchopneumonia, which has now quieted down, and the case gone on to evident typhoid. The recurrences, I think, I have not seen at all in any cases of typhoid in the hospital or in private practice.

The afebrile cases are certainly very rare, although in Hare's work there are a large number reported. I had a case in private practice three years ago where the temperature never ran over 99½; from 98 to 99½ was the range of temperature, although the case ran clinically a perfect typhoid course. I think that the complications that one reads of as occurring so frequently, in practice, one sees comparatively rarely in the cases we have nowadays.

H. A. Fairbairn: Mr. President, this series of cases which Dr. Harrigan has reported is a very interesting one, from several standpoints. The doctor has taken his record-book and told us his story clean-cut. He has not told it to support any pet theory, but simply to substantiate what the best judgment of the times is with regard to typhoid fever.

Now, I think it might be well to pause before we go on to discuss the paper, and ask ourselves what is the real condition that we are treating or that Dr. Harrigan has been treating. I think that it has been put very well this way: It is a multiple infection where the chief lesion may be in some other organ than the bowel. That is a very different view from what our ancient practitioners used to have in regard to typhoid fever. Their eyes rested on two things: the bowel and the temperature.

After defining the condition, the question is what are its main characteristics? Dr. Harrigan has shown us that there are several. First, the infection; secondly, the prolonged excessive temperature; thirdly, some auto-infection, and fourthly, great waste of tissue and deterioration of tissue. Those are the four or five things that we found our treatment on. First, then, we will have to control the temperature; secondly, we will have to meet the infection; we thirdly will have to prevent the auto-infection; fourthly, supply fuel for the great combustion; and fifthly, treat the injured tissues if possible.

Now, there was a time when all eyes were turned on the temperature; the temperature was the great target at which all medical and therapeutic shots were fired, and I think very much to the harm of the patient. There immediately sprang up the coal-tar products and every typhoid-fever patient received them. The cry went up, reduce the temperature at all hazards, that is the cause of the difficulties! It is now urged that we must not attempt to abolish it entirely, for it serves a purpose. I think that I am safe in saying that the prevailing opinion to-day is, that all we are justified in attempting to accomplish is to control fever and prevent it from becoming excessive. The coal-tar products were found to undermine the strength.

Before the coal-tar products quinia was used, and what was the experience with quinia? It was demonstrated very clearly that in very large doses it was one of the most injurious medicines against the heart-muscle. Large doses of quinia will dilate the heart-muscle and you can demonstrate that. If you take a man in the second week of typhoid fever and ply him with 20 or 30 grain doses of quinia you may look for collapse.

Now, the question is how shall we meet this temperature? I agree entirely with Dr. Harrigan—meet it by the application of cold to the surface, by water, but the Doctor's views and mine diverge a little bit there. I do not believe in the indiscriminate use of the cold plunge. Sensitive women and sensitive children will not stand it and it will injure them. With a rough and hardy man, it will go all right, but it is best to begin with the tepid bath and gradually reduce it to find out the degree for each patient. If they do badly with this method you would better sponge them. The benefits of the bath are many; it reduces temperature, improves the nervous symptoms and strengthens the heart—there is no better vascular strengthener in the world than a bath; it stimulates the respiration and the renal secretion; keeps the skin clean and shortens the duration of the fever. By its use we are attacking the fever, attacking the infection. It is one of the most philosophical remedies ever introduced for the disease.

The next thing to do is to see to the feeding question. This is a hard matter with digestive juices scanty and appetite absent. With regard to the use of broths, the rice water, farina water and peptones, my experience has not been so favorable as the Doctor's. I might say that Dr. Bouchard in 1896 published several lectures in regard to it, and he maintains it is one of the best methods of feeding the patient, but I prefer milk, and for this reason, for the fat, sugar and albumin it contains: the meat juices are very rich in chlorid of potassium, which is liable to irritate the intestinal canal. The intestinal canal in typhoid fever is already in a condition of irritation, if not catarrhal inflammation; you have catarrhal enteritis in many typhoid fever cases; the pathologist states that.

As to the call for medication in typhoid fever. In a man with high fever which runs for several weeks, the digestive juice is scanty; you are going to get some fermentation and putrefaction in his intestines and if you are not watchful auto-infection will arise. The intestinal antiseptics come in with great benefit here and I am a firm believer in them. They hold as sure a place in this disease as in any other with gastro-intestinal involvement.

As to the use of cathartics. There was a time when we were afraid to use cathartics in this disease. Some are opposed to their use to-day. I am led to differ with them in this particular by my experience and the experience of some practitioners whom I have been thrown with, and I think the cautious use of cathartics during the whole course of the fever is good, provided there is much constipation. Otherwise the risk of badly impacted bowel will arise.

As to meeting the effect of large intestinal hemorrhages. What are we going to do in this case? Suppose there is collapse following the loss of a large quantity of blood.

Surely not simply plug up the patient's bowel with opium and wait. Intravenous injection of the saline solution is a powerful remedy in these cases, as has been demonstrated in the various hospitals.

Another important question is the involvement of the appendix in typhoid fever. We have all met cases where it was a difficult matter to decide whether they were appendicitis or typhoid fever. It was some time before we knew the reason for these symptoms. A large number of cases have been studied to determine the question and the determination is this: that in very many cases of typhoid fever there is a mild appendicitis, and the reason for it you can explain very easily; the typhoid bacillus has its habitat in lymphoid tissue and the appendix is rich in such tissue; the post-mortems of such cases have revealed cellular deposits in this region indicating that there has been a low form of inflammation.

There is another condition we must look out for, and that is meningitis. It will tax us sometimes to distinguish between a case of typhoid fever and meningitis in a child. Kernig has suggested one test, and it is this: He puts the child on his back and brings the knees down flat, he then raises it up into the sitting posture, and if meningitis be present the knees will flex so forcibly that you will be unable to extend them until the child resumes the recumbent posture.

Now, as to the Widal reaction. The bacteriologists have done more to advance the science of medicine, I think, than any other specialists living, and I honor them greatly and I honor what they have done in this disease. They have introduced a very important test, but there is a string attached to their statements about it, and we must follow that up. It is this: the proportion of reactions in the first week is only 70 per cent. In the second week, not much better. In some cases you do not get any reaction until convalescence. As a positive diagnostic test it is great; as a negative test it is of no value.

E. H. Bartley: May I ask Dr. Wilson if he has any data upon what day of the disease these tests were applied, or did they apply to the whole course of the disease? That is not stated in the statistics, and the point brought out by Dr. Fairbairn is an important one. If we ever need the Widal reaction for diagnosis in typhoid fever, we need it in the first week. If it is not of much value in the first week, I cannot see, except in camp life, the great value of it. Of course, if it could be applied in every case, it might detect some of them, but during the first three or four days, when the attending physician is in doubt, we need this reaction if it is available then; it may be of great value. If it is not available until the second or third week, most of us can make a diagnosis without it.

I wish to make an inquiry of the reader of the paper on the subject of diet. I notice that he says that in about one-third of his cases he had vomiting; that is in ten out of 31. Now, it strikes me, based upon my own experience in my last eighteen cases, that this is a large number of cases where vomiting occurred. I have had vomiting in but one, and that was a patient that insisted upon it that she could not take milk. It was a young lady about 15; she insisted that she could not take milk, and in the third week she did vomit. In these 18 there was no fatal case. It is probably my good fortune to have had 18 cases in succession that were very mild. Many of them started out with a temperature of 103° F. to 104° F., but after a few days they became mild cases. In all of them, except perhaps two or three, milk was the exclusive diet. In a word, the routine treatment was first to secure as nearly as possible a condition of asepsis of the intestinal canal, by the administration of some of the intestinal antiseptics, and then to put nothing into that alimentary canal but food and drink that was sterile or nearly so. In some cases they were fed on sterilized milk, in others Pasteurized milk; generally sterilized milk, or milk that had been boiled, which was probably not absolutely sterile, but nearly so. I have never observed in any one of these cases the tendency to form hard masses in the intestine, and I want to question the Doctor's statement that he adopted this method of gruel treatment in preference to milk, for this reason. I notice in his dietary also the mixture of beef-juice and cream. But I would like to inquire as to whether it is not possible that some of these cases of vomiting may have been due to the cream. I know, in infant-feeding, that it is seldom one can get cream in the market that is sweet. The gravity-cream is always sour. If we can get comparatively fresh centrifugal cream it is all right. Unless we get centrifugal cream we will have sour cream. This will start very active lactic fermentation in the stomach and in the course of a few days the patient is certain to vomit. Before I adopted the sterilized milk plan of feeding I did have those troublesome vomitings, but since then I have never had one of those sour, ugly vomitings that I used to have, and I believe it is due to the fact that I keep down this symptom by first securing as nearly as possible an aseptic condition and then feeding only sterilized food. I notice also that the Doctor laid especial stress on skimming off the fat from his meat-juices. The philosophy of that I cannot understand. I can readily understand that if it is fed cold, hard chunks of solid fat might form which might be objectionable, but I can hardly see why we administer milk with 3½ per cent. of fat, and why we should be so careful to take all the fat off a little broth. There is a question in my mind as to the advisability of the broth treatment during the active fever stage. The result of the high temperature on the tissues in this and other acute febrile diseases, is to produce a considerable quantity of these extractive matters in the circulation; these xanthin bodies and creatin and creatinin bodies of which the meat-broths are largely composed. These extractive matters are produced in considerable quantity and it is to them that the stimulant effect of the fever is due. To put it in common language: it is when the fever suddenly drops that we observe the exhausted condition of the patient; that is, when these meat-bases are suddenly stopped in their production, and are eliminated, we have a sudden lack of that stimulation. Now, it seems to me that to add more of these extractive matters to the circulation is hardly wise or necessary, and for that reason I have as a rule refrained from using these broths. Occasionally, to please the patients, I might give them a little, but as a rule I withhold them, lest I might overtax the powers of elimination of the patient, especially of the kidneys.

Some years ago I had an experience with peptonoids that has led me to avoid their use ever after. I demonstrated to my own satisfaction in one case that the temperature could be sent up from one to two degrees by the use of peptonoids, and since that time I have avoided their use. Whether that would occur in other cases I cannot say, but in this one case, which proved to be a fatal one, it made an impression on me, and since then I have avoided their use. To be sure, what we use when we suppose we are using peptonoids, is not peptone; in the so-called peptonoids there is no peptone, or merely a trace. Most of the peptonoids and so-called peptones of the markets are not peptones but albumoses.

In regard to tympanites, I have not seen it in one of these 18 cases above referred to.

I have very seldom had diarrhea. In one case, that of a young lady, the diarrhea existed from beginning to end; no remedies I could apply would stop it. Finally, I did not apply any remedies and let it go. There were probably six or eight thin movements a day. She did not seem to lose more flesh than the other cases, and made an excellent recovery, the temperature reaching normal on the twenty-first day.

I have not used cathartics, but my favorite treatment is a castor-oil capsule every morning, when conditions require some laxative. I think the keeping down of some of the troublesome digestive disturbances is due to that little trick.

I omitted one point in regard to the milk diet. We are taught by those who have looked into the subject very carefully, that one of the surest means of securing an aseptic condition of the intestinal canal is an exclusive milk diet. Now, if we desire to limit the auto-infection—and that is a very important element in every typhoid case—if we desire to reduce that to a minimum, an exclusive milk diet would seem to be just the thing. I know of but one article of diet that has a better reputation in the mind of those scientific gentlemen, and that is pot-cheese, but I have not used that as a routine diet, but the putrefactive fermentation can be reduced by an exclusive milk diet. The milk and egg albumin and water in cases of vomiting, I have used with happy results, but it is principally the egg albumin that is of the most value. However, I seldom have vomiting to deal with, or have not in the last six or seven years, so that perhaps there may be some other method of treatment that I have not used.

I noticed that in some of these cases the constipation was allowed to continue for three or even four days. That is not my practice as a rule. If the bowels do not move on any day, I insist upon having them opened. As above mentioned, my routine method is the castor-oil capsule, of about 5-gram capacity.

Dr. Wilson: In reply to Dr. Bartley's question regarding the statistics—the statistics from Philadelphia did not include the item of time at which the test was applied, presumably for the reason that they were hospital cases and not under observation during the first week. Our own experience has shown a large percentage of failures, where the reaction was sought before the sixth day of the disease.

Dr. Harrigan: First, I desire to say that Dr. Fairbairn must have misunderstood me with regard to the baths. I made use of the word "sponge," not "plunge." There were no immersion baths used during this particular service.

In reply to Dr. Bartley, I wish to say that my objection to milk, when used alone, is the dread of its forming firm curds, and that these curds may do harm to the inflamed intestinal glands. I maintain that by the addition of rice water, barley water, or farina gruel, the formation of firm curds is prevented; or, if they do form when milk is treated in this way, they are light and flaky, and therefore harmless, and that at the same time all the advantages of a milk diet are secured. Dr. Bartley has intimated that I am inconsistent in using the fats contained in cream, while objecting to the fats that float on the surface of soup or broth. In the course pursued, I have been guided by experience. Notwithstanding the fact that milk is twenty-four hours old before the cream is removed from it, and that another twenty-four hours passes by before the cream is used, I have, nevertheless, been partial to the use of cream as a concentrated liquid nourishment. I have found, however, that when cream is used alone it is likely to be vomited; that if it is diluted with plain water, it is flat and insipid; but that if it is mixed with aerated water and given in small quantities, it serves a good purpose. My objection to greasy broths is that the patients being in the prone position, the broths are liable to be retained for an undue length of time in the stomach, and that they are sometimes vomited. If we could count on broths passing promptly through the pylorus and having their contained fats acted upon by the pancreatic secretion, there would not be any objection to the fats, nor would it be necessary to remove them.

In seven of the ten patients that suffered from diarrhea, this trouble existed when the patients were admitted to the hospital, therefore the hospital diet was not to blame. I believe the dietetic management of these patients was fairly good, though not perfect. A correct diet for typhoid fever patients is of great importance.

Dr. Bartley's suggestion as to the use of castor-oil suppositories to relieve the constipation, is good, and I will adopt it in future.

I should like to know if any member has had an experience similar to that of the case in which the temperature was subnormal by mouth and 102° in the axilla; or, if any one will explain why the buccal secretion had such a chilling effect on the thermometer.

The President (Dr. Hunt): I think Dr. Bartley and Dr. Harrigan are both mistaken about cream necessarily being taken from the milk after it has stood twenty-four hours. I am the unhappy owner of a dairy, and I can say it is the custom for the farmer to take his morning milk to the creamery and dump it into the centrifugal machine, and the cream is taken off and the skimmed milk dumped back into his can. They will sell the large can of skimmed milk for twenty-five cents, and he brings it home and feeds it to his calves.

Dr. Harrigan: Or sends it to his city customers.

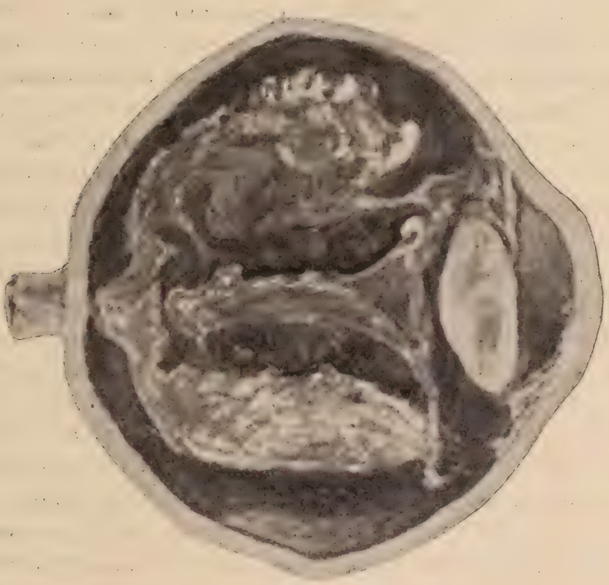
Dr. Bartley: Is not that very frequently retained in the creamery for several days before it comes to the city? In an investigation into the causes of ice-cream poisoning, I ran across this fact, and was informed that the practice is quite general. We had to keep it four or five days until it thickened before it would be accepted.

INJURY OF AN EYE, NECESSITATING ENUCLEATION TWENTY YEARS LATER, WITH ILLUSTRATION.

BY P. C. JAMESON, M.D.

Reported before the Brooklyn Pathological Society, May 11. 1899.

The following is the narration of a case which may be of interest as illustrating the fact that an eye which has been the subject of severe trauma and makes a good recovery at the time of the injury may, at some subsequent period, be of serious import and even (as in this case) after a lapse of twenty years be the subject of enucleation. The case was first seen on January 25th of this year and at that time she gave the following history: Twenty years prior to her visit, when a child of twelve, she was heating an air-tight bottle containing beef-tea over a stove. The bottle quickly exploded and the patent iron cork with which it was provided struck the right eye. She remembered very little of what occurred at that time incident to the wound, other than that after a prolonged period the eye got better, but she was never able to see out of it. From the date of the injury until the occasion she presented herself for treatment she had experienced no discomfort from it and, being sensitive as to its being known that she was blind in one eye, she had skilfully avoided the revelation, inasmuch as her relatives were in ignorance of the fact. In this she was aided by the seemingly normal and healthy appearance of the organ. The case in the early history of this attack resembled the condition of iritis in its incipiency, apart from the evidences of an old traumatic lesion. There were slight pain radiating from the back of the eyeball, lachrymation and general discomfort. The deep ring of circumcorneal injection was present. The iris was slightly discolored, but did not present the sodden appearance so frequently seen in iritis. It was immobile and did not respond to light, nor to the use of atropia. Nor was there any irregular dilatation. The cornea was perfectly clear from any defect, as was the rest of the globe, which presented itself anteriorly. The



eyeball was slightly but hardly perceptibly smaller than its fellow. The tension was slightly diminished. The lens was seen to be opaque and the ophthalmoscope revealed the fact that it had been dislocated to the left. The anterior chamber was perfectly clear and remained so throughout the period of attendance. Thus far in the examination of the anterior structures no evidence of a penetrating body had been discovered. While bearing in mind the likelihood of a traumatic etiology, the early symptoms were so similar to iritis pure and simple, that it was thought best to treat it upon this basis for some time prior to the adoption of more radical measures. It was not for some days after seeing the case and upon a more extended and careful examination that a condition bearing more on the original injury was discovered. Under the eyebrow, hidden in a loose fold of integument, was revealed an irregular cicatrix about one-fifth of an inch in length and by retracting the upper eyelid and rotating the eyeball strongly downward, a brownish irregular indentation in the sclera was plainly brought to view situated at the apex of the conjunctival cul-de-sac. This corresponded with the direction a foreign body would have penetrated the eyeball had it entered the integument at a point the cicatrix indicated. At this time the case was seen in consultation with Dr. Waugh, and, while little hope was entertained as to saving the organ, it was felt that local and constitutional treatment upon an iritic basis could be still persisted in without endangering the fellow organ, especially as the patient expressed herself strongly in disfavor of operation. Without going into detail of treatment or subsequent daily history of the case it is necessary to state that for three weeks the patient was instructed as to a rigid course of iridocyclitis, which was most faithfully carried out on her part; but during that period and after its completion the case went from bad to worse; the pain became intense, and, instead of the ciliary region alone being involved, the sclera and conjunctiva became deeply engorged. It was then decided that operative interference could no longer be postponed, and, with the assistance of Dr. Esterbrook, I removed the eye at the Eye and Ear Hospital. Thus after a lapse of twenty years from date of the original injury, and a period of absolute quietude on its part, the eye had finally to be enucleated as a direct result and consequent upon the injury sustained at that time, as the after findings clearly showed.

While the early history of this inflammatory attack admitted the doubt of the advisability of immediate operative interference, the later progress of the disease pointed clearly to the necessity of that procedure.

The history of the previous injury; the evidence of that injury as indicated by a dislocation and cataract of the lens; the indented sclera and corresponding cicatrix over the eyelid; the absolute want of perception of light of the afflicted organ, indicating that the deeper and sensitive structures were injured to such an extent that vision was completely lost; the perceptible diminution in the size of the organ so frequently seen in eyes that have undergone inflammation of a traumatic nature, the irresponsive nature of the attack not giving way to any of the several lines of treatment, but the evident progress of the disease; the always present and possible danger of sympathetic irritation and consequent destruction of the fellow-organ; the presence of acute neuralgic pain most difficult to control and already interfering with the patient's physical welfare, all seemed to point to the absolute necessity for enucleation.

The illustration is an enlarged painting of the diseased organ in frozen section immediately after enucleation. At a subsequent microscopical examination the points of interest corroborated those noticeable in gross section. The iris was adherent to the lens, but the adhesions suggested that they had been consequent upon the primary lesion rather than the later inflammatory attack. The retina, which had become detached in its entire continuity, had become reorganized so that none of its histological elements were to be found, and the mass of tissue presented numerous foci of cheesy and calcareous degeneration. The probable cause of such marked inflammatory symptom and also the immediate cause of enucleation was in all likelihood the absorption and consequent irritation or infection produced within the organ from the degenerative mass of tissue which occupies the central portion of the vitreous.

NEW YORK STATE MEDICAL ASSOCIATION.

The sixteenth annual meeting of the fifth district branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 22, 1900. It is proposed to choose Diabetes as the topic for discussion. Fellows who are particularly interested in this topic and have any clinical data to present or theories to offer will kindly correspond with the undersigned.

J. C. BIERWIRTH, President.
E. H. SQUIBB, Secretary, P. O. Box 760, Brooklyn.

THE BROOKLYN MEDICAL JOURNAL.

Communications in reference to Advertisements or Subscriptions (Subscription Price $2.00 per annum) should be addressed: Business Manager, BROOKLYN MEDICAL JOURNAL, 260 Hancock Street, Brooklyn, N. Y.

Exchanges should be addressed: BROOKLYN MEDICAL JOURNAL, 102 Court Street, Brooklyn, N. Y.

Books for Review and Articles for Publication should be addressed: BROOKLYN MEDICAL JOURNAL, Polhemus Memorial Clinic, Brooklyn, N. Y.

Remittances should be made by money-order, draft, or registered letter, payable to BROOKLYN MEDICAL JOURNAL, and addressed to Business Manager.

Authors desiring Reprints of their papers should communicate with Rooney & Otten Printing Co., 114–120 West 30th Street, New York, stating the number of Reprints desired, and the number of JOURNAL pages their papers will occupy, allowing 470 words to a page.

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EDITORIAL.

THE "NEW YORK LANCET."

We congratulate the readers of the *New York Lancet* on the new editorial management under which that publication is to appear. Dr. Walter B. Chase, as editor, with his son, Dr. Carroll Chase, as assistant editor, have already assumed control, and the long and extensive experience of the senior editor in the special lines to which this journal is devoted, and the zeal and enthusiasm of the younger, are a sufficient guarantee that the articles which it publishes will be fully abreast of the times. The *Lancet* publishes not only general medical news, but is also the "Archives of Gynecology, Obstetrics and Pediatrics."

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WATER FAMINE IN BROOKLYN.

The danger of a "water famine" shows but little signs of abatement. At last reports the storage reservoir at Hempstead was empty, and the Ridgewood and Mt. Prospect reservoirs contained but 207,570,800 gallons. Inasmuch as the daily consumption sometimes runs above 100,000,000, the danger is obvious. The depth of water is steadily decreasing in these reservoirs, not enough coming in to make up for what is consumed. What a "water famine" means, few realize. It is not that there will be no water, but that the pressure will so diminish that the service to upper parts of houses will be cut off, and as a consequence there will be no supply for water-closets except what is carried up or pumped up. What such a condition means in a city of more than a million goes without saying. Then, too, the danger from the drying of traps in upper stories and the consequent opening of communication with the sewer; this is also one of the serious results of diminished pressure.

The supineness of some city officials in the past is now reaping its harvest. Over and over again the danger which now threatens us has been vividly portrayed to them, but to no purpose. The names of these recreants should be written indelibly somewhere, the best place would probably be in the records of the penitentiary, that officials in the future might know that the public will never forget nor forgive such mismanagement of trusts which have been committed by them to their keeping.

Charges are made that the cry of "famine" is but part of a scheme to frighten the people and compel the acceptance of a plan, frequently proposed, but as yet not adopted by which a private corporation can coin wealth; but this is too monstrous to believe, and the most indisputable proof should be demanded before the charge should be even entertained. To have delayed the completion of the Milburn reservoir and the construction of a pipe line to it was negligence enough, but to exaggerate the present condition of the water-supply to a degree that will inflict great injury on Brooklyn property and Brooklyn interests, in order to foist an unholy scheme upon the city would be nothing less than a crime.

PROPOSED TRANSFER OF THE BROOKLYN HOMŒOPATHIC HOSPITAL TO THE CITY OF NEW YORK.

It is reported on excellent authority that a bill is being prepared to transfer the Brooklyn Homœopathic Hospital to the city of New York, and that this transfer is to carry with it the obligation on the part of the city to maintain the institution as a homœopathic hospital, the property to revert in case this condition is not complied with.

We desire to record ourselves as unequivocally and irrevocably opposed to this proposition, and shall take every means in our power to prevent its accomplishment. This position is taken not on any narrow and bigoted ground, and with no desire to be illiberal, but on the sure and broad foundation that the city should have no part in the maintenance of any sectarian institution, whether it be carried on along theological or medical lines.

The argument, of course, made by those who favor the proposition, and we understand the invitation came from the hospital authorities, is that inasmuch as the "Allopathic School" has a public hospital, the Kings County Hospital, therefore the "Homœopathic School" should also have one. That homœopaths form a no inconsiderable part of the population and taxpayers, and are, therefore, just as much entitled to a hospital in which their particular medical faith shall be practised, as the allopathic portion of the population and the allopathic taxpayers are to their hospital.

The answer to this argument is simply this: there is no allopathic school of medicine; there are no allopathic doctors, no allopathic population, and consequently no allopathic taxpayers, and finally the Kings County Hospital is not an allopathic institution. Allopathy is defined by the "Standard Dictionary" as

> "A system of remedial treatment in which it is sought to cure a disease by superinducing another of a different kind, or by producing a condition incompatible with the disease; a term applied by some homeopathists, and widely in popular use, to the common or 'regular' system of medical practise, to distinguish it from homeopathy."

Henry Rogers, in Greyson Letters, says:

> "Neither does it seem quite fair of Hahnemann to all other practitioners with uniformly proceeding on some one opposite principle, as *allopathy* or antipathy; for neither 'homeopathy' nor '*allopathy*' was ever heard of till he chose to invent the terms, and, taking one himself, gave the other to all the rest of the medical world."

What homœopath of to-day would be bold enough to assert that the members of the medical profession who do not belong to their school cured one disease "by superinducing another of a different kind?"

If by the second part of the definition, that allopathy is a system of remedial treatment in which it is sought to cure a disease "by producing a condition incompatible with the disease," is meant the attempt to restore normal conditions, then we imagine all physicians would be proud to be regarded as "allopaths"; but the fact is that the word was coined to set off "homœopathy" and was intended as a reproach, and if it has passed beyond that stage and has come to be regarded as a distinctive name of all reputable physicians who belong to no sect, it is because as a profession we have either ignorantly or unconcernedly permitted it to be fastened upon us, when we should have resented its use as an insult, as much as if we had been called quack or charlatan.

The conscientious physician belongs to no school, nor is he bound by any tenet except such as obligates him to do for the patient entrusted to him everything in his power to restore him to health *tuto, cito et jucunde.* There is no remedy in the materia medica of any school or sect that the honest physician will not use in his treatment of a patient if there is evidence that such remedy will do the work, for which his services are called, better or more quickly than another; nor is there any dose so minute but that he will give it if its effect will be more beneficial to his patient than one of larger size. The idea that the homœopathic school has proprietary rights in certain drugs, or that it minimizes its doses, while all other practitioners give large and nauseating doses, is too ridiculous to ask any one of intelligence to believe. The fact is that there is not only no allopathic school, but there is also no true homœopathic school, except on paper, and those who maintain that there is are for a purpose masquerading under a disguise which fools none but the credulous and the ignorant. We are told that if the drugs employed by many of those who are regarded in communities as being leading homœopathic practitioners, and the doses in which they are used, could be submitted to public inspection, the scales would fall from many an eye, and, were such a thing possible, would cause the founder of the system to turn over in his grave.

The Brooklyn Homœopathic Hospital has a surgical as well as a medical service. Just what homœopathic surgery is, we do not know. Indeed, among the countless books issuing from the press, we do not at the moment recall the receipt of one by us in our editorial capacity which treats of this kind of surgery. And, by the way, who are the surgical writers of this school? What contributions have they made to this department of medical literature? Who are the renowned homœopathic bacteriologists and sanitarians, we might also ask?

"Ah!" the homeopathic physician says, "that is one of our causes of complaint. We are not given a chance. Most of the public hospitals are manned by allopaths, and we want our chance to gain the experience obtained from such institutions." Yes; that argument might have value if there was any evidence that homœopaths were better surgeons that all others, and that putting them in charge of surgical cases the patients would be benefited; but is there such proof? If so, we have not seen it. Certainly the opportunity to perfect oneself in surgical technic is no claim for recognition which public authorities having the poor in their charge can be expected to recognize.

If there is to be a homœopathic hospital established by the city, why not an eclectic? There are taxpayers who believe in eclecticism, and physicians who practise it; and why should not they have their rights? But it is said "Their number is small." True, but the principle is the same, and though, like the conies, they "are but a feeble folk," still they have their rights, and if small in number, let them have at least a small hospital.

The fact is and will ever remain that sectarian hospitals should not be supported out of public funds. If any sect or school wishes to have such a hospital, let it build, equip and maintain it. In this connection it is a little strange that if there is such a large proportion of the people of the city who believe in the tenets of this school, a proposition to turn this hospital over to the city should come from the authorities who control it, for we have seen no reports of any petition from the people asking for it, although we presume such a petition could readily be obtained, so easy a matter is it to get signatures for anything. Of course, the fact that there are obligations amounting to $60,000, so reported, has nothing to do with the matter, but we thought we would mention it, so that in considering the question all the facts might be in hand.

What the city should do with reference to the medical positions in its hospitals is this; throw wide open the doors to all physicians of whatever school, so long as they are legal practitioners, and let the most competent have the positions; but when they have been appointed, require them to treat the patients committed to their care after the best, most scientific and most humane methods, and if any one is found carrying out any system, be it "allopathic," "homœopathic," or "eclectic," sever his connection with the institution as soon and as completely as possible.

PROCEEDINGS OF SOCIETIES.

BROOKLYN SURGICAL SOCIETY.

Regular Meeting, October 5, 1899.

Dr. Walter C. Wood, the President, in the Chair.

EXCISION OF ASTRAGALI FOR INVETERATE TALIPES.

Dr. L. S. Pilcher presented a young man, who, he said, had been presented to the Society before. It was a case in which some four years ago the astragali were excised for the relief of inveterate talipes. He thought this case was interesting at the time and perhaps interesting a year or two afterwards, and it seemed to him it would be still more interesting after a lapse of four or five years after the operation. The patient walked back and forth to exhibit his gait. Dr. Pilcher further said that this was practically the first cutting operation the patient had had. He was 22 years old, and this operation was done four years ago. There had been an effort made to correct this by forcible breaking down of the parts and by plaster dressings. He had been under the care of others for years before that, for the purpose of its correction by means of ordinary instruments, but all to no avail. The condition was a lamentable one at the time he was operated on. As far as the immediate effects of the operation were concerned the healing was good, and his locomotion and general comfort had been very greatly improved. As could be seen, there had been no recurrence of the deformity in any measure. The condition of the left foot was better than the right. The speaker said that the leg muscles had developed some since the operation: at that time they were a lamentable pair of drum-sticks. The motion is somewhat restricted in the astragalotibial articulation of the right foot; in the other foot there is more movement. What the patient complains of is the tension on the metatarsal bone. The great toe drops from the lack of power in the extensor proprius pollicis, and the first metatarsal bone projects on the top of his foot, and the wearing of the shoe there has caused a bunion.

A much better result could have been secured by earlier operation. Here is a young man who went to the age of 18 before having any radical measures taken for his relief. Beside taking out the astragalus on each side, there was a section of the cuboid, as well as a wedge taken out on each side, in order to bring the foot around into shape. The tendo-Achillis was also cut.

DISCUSSION.

Dr. J. B. Bogart said that he had had considerable experience in the treatment of this condition in children, and he had been impressed with the ease with which the most complete types of this deformity could be remedied by manipulation in young children, especially those under a year old. If one divides the tendo-Achillis, one seldom has to do more in the way of a cutting operation. He had found that the amount of force one has to use to completely straighten the foot sometimes results in tearing the skin on the inner side of the instep, the inner and under side. Sometimes the fascia and sometimes the muscles also are torn. He had followed the rule that it is just as well, and perhaps better, to use all the violence necessary to straighten the foot, permitting the tissues to give way wherever they will and cutting only what is absolutely necessary. The speaker was satisfied with his results from this method. In some cases, however, he had found that it was impossible by any sort of manipulation to secure a sufficient amount of flexion at the ankle-joint. The force applied had been sufficient, especially when used in connection with the incision of Phelps, to partly tear off the anterior portion of the foot, and yet the condition of things at the ankle-joint—the position of the bones of the ankle—had not been remedied. It is in such cases, generally in older children and in adults, that the question arises as to whether it would not be better to do such an operation as has been shown than to have such results as he had described. He had done this operation a few times, but not often enough to have any considerable experience with its results. The case clearly emphasizes the importance of early remedial treatment, for not only will the operation be less severe if done early, but the result will be infinitely better. His experience would lead him to believe that this fact is beginning to be realized and that the majority of these cases reach the surgeon earlier than formerly.

RESECTION OF INTESTINE FOR STRANGULATED FEMORAL HERNIA.

Dr. R. W. Westbrook reported a case of strangulated femoral hernia, resection and anastomosis with Murphy button, as follows: Case 2717, August 5, 1899, woman, age 43. Has had a right femoral hernia for twelve years, and during the eight or nine months before operation has had a number of attacks of umbilical pain and vomiting, lasting several hours, and relieved by the difficult reduction of the hernia by her physician. For three months before operation, she wore a truss constantly, but it did not always hold the rupture.

Patient was out shopping when present attack came on very suddenly, with severe paroxysmal pain referred to umbilicus, and vomiting of stomach contents and bile. She was taken to a truss shop where attempts at reduction were made by two attendants and by a physician who was called in, and finally brought to the Brooklyn Hospital, where an interne also made taxis unsuccessfully. When the speaker saw her, paroxysmal umbilical pain was severe, and retching and vomiting of bile very frequent. The tumor in the femoral region was tense and irreducible.

Operation was done six hours after onset of symptoms. Oblique skin incision, four inches long. On exposing and opening the sac, one and a half ounces of brown fluid gushed forth. A knuckle of small intestine, quite small, but comprising the entire circumference of the gut, was found very tightly strangulated, and almost black in color. The femoral ring was very small and tight, and required free nicking before the loop of intestine could be brought down, so that it might be surrounded with hot sponges for twelve minutes or more. This did not restore the color to the gut, although it had been strangulated but six hours. There was blackish hemorrhage into its walls, due either to the very tight construction, or rough taxis. The resiliency of the bowel was not lost, but as its vitality was in doubt, it was considered wisest to remove it. An inch and a half was resected, and an end-to-end anastomosis done with a Tiemann "small intestine" Murphy button. This button was a tight fit for this particular small intestine, and the operator left it with some fear as to injurious pressure, causing necrosis of the bowel wall surrounding the button. A continuous Lembert suture was used to reinforce the line of anastomosis. The loop of bowel with the button enclosed could not be replaced until the ring had been again incised and enlarged. A strip of iodoform gauze was left as a drain, and the wound closed with two buried Kangaroo-tendon sutures and several silkworm-gut sutures.

The patient made a good recovery, but suffered for several days with paroxysmal epigastric pain and occasional retching, which seemed to be due to the presence of the button in the intestine. As recent researches have shown that the suture line in intestinal anastomosis is weakest from the third to the fifth day after operation, the patient was kept for a week on a diet of egg-albumin water, broths, and sherry wine, before commencing milk or other foods, leaving much residual matter in the intestine. No cathartics were given by mouth, night and morning enemas being used for ten days. The button probably passed into the rectum in the fifth week, but as the patient had sphincteric spasm due to fissure of the anus, it was not until Dr. Westbrook operated on the fissure, on the forty-eighth day, that the button could be removed.

He said that he was not favorably impressed with the use of the Murphy button in femoral hernia, unless one is much pressed for time, and the femoral opening, also, is large enough to admit of easy return of the bowel with the button. An anastomosis by suture can be done so easily here, where but a small portion of the bowel is resected, and done without the certain amount of traumatism which the button surely inflicts, even with careful use, that suture should be preferable. Enlarging a small femoral ring increases in some degree the chances of recurrence of the rupture.

STRANGULATED VENTRAL HERNIA.

Dr. Westbrook reported a case as follows: Case 2729, August 7, 1899, woman, age 40, married. Patient had one ovary and tube removed by abdominal section eight years ago. Uterus and remaining adnexa removed by vagina one year ago. Patient was taken ill one week before operation with pain in the abdomen and vomiting. For the entire week she vomited pretty constantly, and could retain no food. Enemas brought away some fecal matter at first, and only gas later. Vomit became fecal on seventh day, and on that day Dr. Westbrook saw her in consultation. The abdomen was but little distended. The only tenderness elicited was in the epigastric region where she said it had been since the second day. But to the right of the median laparotomy scar could be felt a round, hard tumor, about the size of an hen's egg. Strangulated ventral hernia was diagnosed, and immediate operation advised. On admission to the hospital, her temperature was one degree subnormal, pulse 108, respiration 28. An enema brought away some gas, but no feces.

Operation: median incision, in line of old scar, which was excised. The hernial sac was opened, and found to contain a loop of small intestine, of a very dark mahogany color, the first impression being that it was gangrenous. The neck of the sac was in the old incision in the middle line, and thence the bowel had taken a course to the right. The constriction at the neck of the sac was incised, old adhesions separated, the loop of intestine drawn out and covered with warm sponges. It soon regained its color, but a dark line of contusion remained where the neck of the sac had constricted the gut and cut through the peritoneum. A swelled and blackened hemorrhagic area was present on both surfaces of the mesentery, also, which had been constricted in the same manner. As the circulation through the gut had been readily regained, it was decided that the actual damage to the mesentery was less than it appeared to be. There was risk in leaving it as it was, but it was decided that the risks of resection, with suture or Murphy button, were greater. The line of injury on the gut was therefore whipped over with a double line of continuous Lembert suture, bringing adjacent healthy peritoneum together over it, and the whole dropped back into the abdominal cavity. The hernial sac was cut away, and, as completely as the patient's condition permitted, the rectus muscles on each side of the old laparotomy scar exposed and brought together to repair the weakened abdominal wall. The incision was closed with crossed sutures of silkworm gut, an iodoform gauze strip being left to guard the suture line of the gut. The drain was removed on the second day and the patient made a very simple and comfortable recovery, having primary union in her wound, and leaving the hospital at the end of three weeks with a firm scar.

This case shows that moderate injuries of the mesentery should not too quickly force us to the alternative of a resection, or lateral anastomosis, each with its positive risks. The speaker had no anxiety about this case after the second day, while the previous case recorded, with the Murphy button in her, concerned him for over a week.

STRANGULATED INGUINAL HERNIA.

Dr. Westbrook reported another case as follows: Case 2725, August 7, 1899, man, age 70, shoemaker. Patient had had a large right scrotal hernia for over twenty years, complicated with a hydrocele on the same side. He usually wore a truss, but left it off at times. He had had two attacks of strangulation previously—the last, two years ago. Patient left his home in the morning without his truss, and towards noon began to have pain in lower abdomen. Returned home and attempted to reduce his hernia, but found it tense and hard, and could make no impression on it. A physician was called who made taxis unsuccessfully, and advised removal to the hospital, where he arrived towards evening. His condition was good, and, considering his age, the speaker directed the house-surgeon to keep him with pelvis elevated, to use ice or ether locally, and after an hour or two, to try careful taxis. These measures did not succeed, and patient was vomiting, and constipation was complete. Dr. Westbrook then saw him himself, ordered everything prepared for operation, and promised him to reduce the hernia under ether if possible. He also got his consent to remove the testicle on that side in case operation should be necessary. The patient was etherized, and placed in extreme Trendelenburg position, but with thighs flexed. The intestines were massaged towards the diaphragm through the abdominal wall, and taxis unsuccessfully made on the tumor, which was as large as a boy's head.

A six-inch skin incision was made. The hydrocele was not apparent until opened. It was supposed to be the sac: the escape of fluid showed its identity. After the inguinal canal had been opened, the large mass of gut suddenly slipped back into the abdominal cavity before opening the sac. The sac was then separated from the tunica vaginalis, and the latter stripped out of the scrotum and cut away with the testicle. The sac was then separated from the cord, opened, transfixed, and tied off high up with catgut. The cord was likewise tied off high up within the internal ring. Five sutures of Kangaroo-tendon approximated the internal oblique and transversalis muscles and the conjoined tendon to the under side of Poupart's ligament, and a continuous suture of chromic catgut closed the whole extent of the external oblique aponeurosis. A subcuticular suture closed the skin-incision, with gutta-percha drains at each angle. A counter-opening had been made in the bottom of the scrotum, and an iodoform wick passed through the scrotum from the lower angle of the wound above. The patient was under ether only an hour, including both taxis and operation, and, in spite of his seventy years, ran a normal temperature after operation, and recovered with essentially primary union. Patient left the hospital with a thoroughly firm abdominal wall, more comfortable than he had been in years.

The speaker felt that in all strangulated hernias of elderly men, the patient's consent should be gotten to remove the testicle. Its removal shortens and simplifies the operation, reducing the tax upon the kidneys and heart, admits often of radical cure, and provides better drainage and healing.

INTESTINAL OBSTRUCTION, DUE TO ULCER OF THE ILEUM.

Dr. Westbrook also reported the following case: Case 2705, August 2, 1899, young woman, age 18, stenographer, single. According to her family physician, the patient was in perfect health one week before operation, at which time she was suddenly attacked with sharp pain in the left iliac region, accompanied with vomiting and constipation. The pain continued, and was slowly referred more towards the median line. Vomiting continued, and some distention developed. Four days from commencement of attack, an enema brought away a quantity of fecal matter and some gas. Pain and vomiting still continued, but distention seemed to become less. Bowels did not act from that time on, three days before operation. On the day of operation, at noon, she vomited a large quantity of fecal matter. She was brought to the Brooklyn Hospital, where the reporter saw her in the evening.

Examination showed a strongly-built girl, with apathetic expression, answering questions in monosyllables, and with pulse of 120, regular but poor in quality, temperature of 100.8°, and respiration of 20. Abdomen quite distended, and tympanitic everywhere. No pain except on deep pressure to left of middle line, midway between umbilicus and symphysis, which produced pain referred to umbilical region. No tenderness farther out in left iliac fossa where pain was first felt, and none in right iliac fossa. Vaginal examination negative. No diagnosis was ventured beyond that of a serious intra-abdominal lesion, which had produced for a time a partial obstruction, now become complete. Immediate operation was advised as offering the only chance of recovery.

A median incision was made, sufficiently large to admit the hand, and search was made unsuccessfully for the site of the obstruction. The distention was so great that the pelvic organs could not be reached without danger of rupturing the gut. The intestines were therefore taken out gently, coil by coil, and protected with hot towels, after enlarging the incision to seven or eight inches. The cecum was found collapsed, showing the obstruction to be in the small intestine. The appendix was normal, and no sign of any inflammatory process had yet been seen. A suspicious fecal odor was at one time noticed which caused him to proceed very carefully with the taking out of the intestines. After much of the small intestine had been turned out, and he was examining the coils just above the pelvis, a sudden gush of thin fecal matter flooded the pelvis. It was sponged away as rapidly as possible, but continued to well up for a minute or two. The portion of gut which had emptied itself was the lower ileum, and was found to have a single perforated ulcer on its convex border, one-half inch in diameter, with dark-colored ragged edges, and slight adhesions around it. An assistant was directed to incise the small intestine higher up to further empty and relieve the distended bowel, while search was made for any additional lesions. Nothing was found but a single spot of exudate on the same portion of intestine, of the same diameter as the ulcer. The pelvic organs were perfectly normal. No pus or blood was found in the abdominal cavity, the peritoneum being everywhere bright and glistening. The blackened edges of the ulcer suggested old hemorrhage into the bowel. It was his opinion that the ulcer had been adherent to the posterior parietal peritoneum, causing angulation and obstruction. But the patient's condition, and the large amount of distended gut present, did not permit of complete examination there. Possibly the ulcer had adhered to the spot of exudate noticed, and a loop thereby formed.

The abdominal cavity was sponged as thoroughly as possible and then flushed with hot salt solution. The intestines were replaced and the opening made in the bowel-wall was stitched with silk into the median incision, as was also the ulcer, to permit of further exit of intestinal gas and contents. The rest of the median incision was closed except where a bunch of wicking drains found exit. The patient left the table with a pulse of 140, and rapidly sank, dying five hours afterwards. Much to the operator's regret, no autopsy was permitted, nor did he have any opportunity to re-open the abdominal wound.

In the absence of typhoid fever, tuberculosis, and syphilis, he could not explain an ulcer of the ileum. Perhaps the case was one of walking typhoid. Such cases have been reported with intestinal perforation as the first symptom. But this was apparently an isolated ulcer. Tubercular ulcers are most commonly found in the lower ileum, but there was here no other evidence of tuberculosis. Reports are common of ulcers of other portions of the intestinal tract which have caused absolutely no symptoms until perforation, but he has been able to find no such reports pertaining to the ileum. Treves says, in his work on "Intestinal Obstruction:" "It must be confessed that our knowledge of ulcerative processes in the intestine is still very incomplete, not only in their pathology, but also in their clinical bearings." He also mentions eleven recorded cases of stricture of the lesser bowel following ulcerative processes. Of these, there were six instances of single stricture and five of multiple. Of the latter series, all five were in young adults, four of the five were young women from twenty-two to thirty-three, and the ileum was involved in each instance. In not one of the cases could the nature of the ulceration upon which the stricture depended be diagnosed. Possibly the case just reported may be placed among these unclassified ulcers of the ileum, mentioned as occurring especially in young women.

APPENDICITIS WITH SUPPURATION, LIMITED BY INTESTINAL PARESIS.

Dr. Westbrook reported a case as follows: Case 2530, June, 1899, female, age 42, married. History of several attacks of appendicitis, the first seven months previously, and the last three months ago. Present attack commenced four days before operation, with sudden onset and acute pain, at first general, later becoming localized in right iliac fossa. Vomited during first and second days. Was pretty thoroughly dosed with morphin by her physician. On admission to hospital her temperature was 101½°, pulse 104, respiration 28. Abdominal respiratory movements restricted, distention moderate and general, rigidity of right rectus muscle, with general abdominal tenderness and maximum tenderness in right iliac fossa. An elongated tumor could be felt extending downward from iliac crest, and occupying the outer half of the right fossa. Vaginal examination negative.

Operation: Oblique incision, well to outer side, over tumor. Abdominal wall very edematous. The first cut into the peritoneum was followed by the gushing out of very consistent pus under tension. The finger immediately placed in the opening apparently entered an abscess cavity, and the peritoneum was further incised, and some six ounces of pus evacuated. As the pus flowed out, the intestines began to fall into the space which it had occupied, showing that the cavity had been limited by no true adhesions, but lined merely with a grayish lymph. The sharply outlined patches of this grayish exudate stood out on the surfaces of the intestines which had enclosed the pus-collection in marked contrast to the clean peritoneum immediately beyond these exposed portions. A wall of flat sponges was employed to protect the clean main portion of the abdominal cavity, and a gangrenous and perforated appendix tied off at its base with catgut and removed with the cautery. Considerable sero-pus was sponged up from the pelvis. Three plain wicking drains were placed in the pelvis, a dozen more were passed in various directions in the area where the pus-collection had been, and all brought out of the lower angle of the wound, which was closed above with crossed silkworm-gut sutures. The patient made a good recovery, complicated only by some troublesome distention for several days.

This case seems to indicate that intestinal paresis may be, to a certain degree, a conservative process. There were no adhesions lining the pus-cavity, but a wall of wedged-in intestines, whose activity was largely at a standstill, was about the pus collection, and confined it under pressure. The gray pellicle which coated these intestines had no strength to it, and served simply to plaster in the crevices in the wall of intestines, readily yielding when the support against them was removed. How much the patient's dosing with opium had to do with this conservative condition might be food for thought for those who prescribe cathartics by mouth habitually in appendicitis, to the exclusion of opium. The early use of cathartics here might have scattered the infection broadcast.

INTRAPERITONEAL RUPTURE OF THE BLADDER.

Dr. Westbrook reported a case of intraperitoneal rupture of the bladder: Case 2804, Sept. 4, 1899, man, age 28, Irish, driver. Patient was run over by a lumber wagon on Labor Day, while intoxicated, and the wheel was said to have passed over his lower abdomen. He was found soon after by the ambulance surgeon suffering from severe shock, with urgent desire to pass his urine, but inability to do so. A catheter was passed and evacuated several ounces of very bloody urine.

Soon afterward, Dr. Westbrook saw the patient in the hospital, still suffering from shock, but having a fair pulse, and presenting bruises over the right loin and buttock. Pressure made on the iliac crests elicited pain and a dull crepitus, pointing to a separation of one of the pelvic articulations, but of which one could not be determined, owing to the patient being quite obstreperous in his intoxication. Pressure made upon the lower abdomen invariably showed extreme tenderness over the region of the bladder. A soft catheter was passed and brought away about two ounces of almost pure blood. A measured quantity of sterile normal salt solution was then injected into the bladder through the catheter, only one-quarter of which returned. No dulness on percussion was produced above the pubes by the fluid, the note there being tympanitic. Some dulness was demonstrated in the loins, showing the presence of fluid in the abdominal cavity. The patient also volunteered that he could feel the warm fluid in his abdomen. The above findings pointed conclusively to intraperitoneal rupture of the bladder, and operation was proceeded to as soon as possible, which was four hours after the receipt of the injury.

Ether narcosis. Incision three inches long made in median line commencing at the symphysis pubis. The peritoneum was found to be pushed well up above the symphysis by a pulpy mass of tissue in the prevesical space, into which hemorrhage had occurred. No extra-peritoneal rupture was found. The incision was extended to six inches and the peritoneum opened. A considerable amount of bloody fluid escaped at once. After sponging out freely, the patient was placed in the Trendelenburg position, the intestines walled away with flat sponges, and the bladder brought up into the incision. A large transverse rent, three and a quarter inches long, was found posteriorly in the fundus of the bladder, which still bled freely on sponging off its ragged edges. A blunt hook was placed in each extremity of the wound, and interrupted sutures of mildly chromicized catgut were passed through the muscular coat of the bladder from the peritoneal edges to, but not including, the mucous membrane. A dozen such sutures were placed, and then all tied, closing the wound firmly. The peritoneum was then approximated over the suture line with a continuous Lembert suture of silk, and this in turn reinforced with a second such suture, sealing in the wound completely. The abdominal cavity was then thoroughly flushed with hot normal salt solution. Four drains of wicking were left in the pelvis, over the suture line of the bladder, the ends being brought out of the abdominal incision, which was then closed for the rest of its extent.

An attempt was made to free the pulpy tissue of the prevesical space of some of its extravasated blood for more thorough drainage, with the result of starting up very free hemorrhage. This was controlled with gauze-packing, which also remained as a drain. The condition of the soft tissues here suggested that a separation of the symphysis had occurred, but it was found in place. The patient was then placed in the lithotomy position, perineal section performed, and a large caliber drainage tube stitched into the bladder to permit of continuous drainage. The patient was put to bed with a pulse of 144. He suffered from shock during the night, but on the following day his pulse was 100 and his temperature normal. Calomel followed by salts produced two movements of the bowels, although there was some abdominal distention. There was nausea and some vomiting. About forty ounces of perfectly clear urine were passed through the tube. Two days after operation his pulse was 105, moderate distention of abdomen, increased vomiting, and the temperature rising. There was a suspicion of delirium tremens developing, as the patient had been a hard drinker. Thirty-five ounces of clear urine were passed. Liquid food had been retained at times both days, and the bowels continued to move. But peritonitis was well under way, and the patient died on the fourth day. No autopsy was permitted.

Dr. Westbrook said that he had reported this fatal case, hoping to hear the experience of some one else with regard to this injury. It is not a common injury, or else is not recognized, statistics showing only three ruptured bladders of both intra- and extraperitoneal varieties out of 10,867 surgical cases in Berlin, and only two among 16,711 cases in London. St. Thomas' Hospital, London, has had four cases of ruptured bladder out of 8,153 cases of injury, and Johns Hopkins' Hospital, Baltimore, three cases among 7,000. Mortality statistics vary so much that they are unreliable, simply proving that the mortality is exceedingly high. Why is the mortality so high, and how may we operate more successfully? It goes without saying that the operation should be done as soon as possible. Yet one can rarely operate earlier than in the case reported. In another similar case, the speaker said that he would do an exploratory laparotomy on the symptoms alone, without injecting any fluid into the bladder, as this might spread some infection throughout the abdominal cavity. A normal bladder should be sterile, but men who get drunk not infrequently have pus infections of the urethra, and there was suspicion of it in this case, but the patient vigorously denied it. Now that Kelly's vesical speculum has been adapted to the male urethra, a preliminary examination with it would demonstrate the injury to the bladder-wall after the patient is anesthetized. Experiments made by Strauss and Tuffier are said to have proved that aseptic urine injected into the peritoneal cavity, space of Retzius, and muscle of dogs has been absorbed with no reaction. The same was found true of urine mixed with blood. The speaker did not know how large quantities were injected. Yet, in another case, he would spend a considerable time and much effort in flushing out the abdominal cavity, using very large quantities of salt solution. In the present case, he flushed the abdomen quite thoroughly, and apparently left a clean abdomen, with a peritoneum practically intact. One would ordinarily expect such a peritoneum after operation to possess good resistive powers. But here it did not, for something had lowered its vitality. In other particulars, he would proceed in another case exactly as in the present, using perineal drainage instead of a catheter in the urethra, or depending on the strength of the sutured bladder-wall and frequent voluntary urination, as advised by some.

DISCUSSION.

Dr. Russell S. Fowler said that he had made rather an extended study of the various traumatic lesions of the abdomen. The first questions in cases of grave abdominal injury relate to the character of the applied force, the site of its external impact, and its direction. Next, the probable condition of the abdominal wall and the viscera; the time elapsed since the last meal; the time when the bladder and sigmoid were last emptied; the history of previous disease of any of the abdonimal viscera. The pulse, temperature, and respirations, and the degree of shock, noted. Vomiting, its time of onset, its character, and its persistency. Distention, its time of onset and rapidity, and whether it is extravisceral, as shown by the absence of normal liver dulness. This last is valueless in early diagnosis. It is of extreme importance to ascertain whether opium has been administered. Opium, even in small doses, given in the incipiency of intra-abdominal injuries, renders diagnosis difficult, and in many instances impossible. It disguises the true character of the pulse and respiration, lessens the pain and destroys the tenderness, lowers the temperature, frees the rigidity of the rectus, and delays the distention. It should never be administered before diagnosis. The condition of the abdominal wall is noted; also the relation of the rectus to respiration. The immediate symptoms may be slight. The pain, vomiting, tenderness, and shock may be mild in character. If so, and if they are transitory, well and good. But if the initial symptoms persist in ever so mild a form, especially the tenderness and acceleration of pulse, the diagnosis is fairly positive; if in addition to persisting, they increase ever so slightly, the diagnosis is fairly assured; while if yet further to the increase of these symptoms there is added beginning moderate increasing rise of temperature, the diagnosis of grave intra-abdominal injury is made absolute. In practically all cases a few hours' close observation will establish the diagnosis. It is not by the mere presence of the symptoms that a diagnosis is made, but from their persistency and steady increase. Intra-abdominal hemorrhage is present to a greater or less degree in all cases. It may be present in sufficient amount to give rise to symptoms of concealed hemorrhage. The fluid-blood may produce dulness over either flank. There is no injury or disease which requires the absolute mastery of physical diagnosis, the exact knowledge of visceral relationship, as is required here. Notwithstanding its difficulties, diagnosis must be made, and made within a few hours of the receipt of the injury. The determination of the exact nature of the injury is in many cases impossible in the time afforded, if the life of the patient is to be saved. The nature of the symptoms as outlined above furnish sufficient grounds for an exploratory laparotomy. Any of the viscera may have received injury and be producing the symptoms, but no time must be wasted in endeavoring to determine which viscus is at fault. If we wait for liver dulness to be obliterated, we may not only wait in vain, but will destroy the patient's only chance of recovery. We cannot wait for our patient's belly to fill with blood from a ruptured mesenteric or renal vein; we cannot wait for the fully developed peritonitis of gall bladder or urinary bladder rupture; we cannot wait to establish a definite diagnosis of perforation of some portion of the gastro-intestinal tract, for if we do we seal our patient's fate. Having mastered the early symptoms common to all abdominal injuries, let us turn our attention to the early symptoms of the rupture of a particular viscus, the urinary bladder. These ruptures occur most commonly in the posterior wall. They are necessarily mortal unless intervention is immediate. If ever there is a case which demands immediate surgical intervention it is exemplified in intraperitoneal rupture of the bladder. It is impossible to make an immediate localizing diagnosis with certainty, and this is why operation is often delayed until the case has assumed a grave peritonitic aspect. At the onset symptoms of abdominal shock are present, the surface of the body is pale and the extremities are cold. The belly is slightly distended and is a little tender to pressure. There is a desire to urinate, but the performance of the act is impossible in most cases. In a few cases the patient can urinate a little at a time, but the act is attended with difficulty and pain. If the catheter is introduced, only a few drams of urine mixed with blood are obtained, or the result is negative.

It is impossible to map out the bladder by palpation above the pubes. Instead, percussion reveals more or less diffused dulness which changes position with the movements of the patient. The entire subumbilical region may be progressively distended and on palpation give a feeling of diffuse fluctuation. Bearing in mind the early symptoms of peritonitis from the rupture of any viscus and joining these symptoms with the early localizing symptoms above referred to makes the diagnosis of intraperitoneal rupture of the bladder with extravasation of urine into the peritoneal cavity positive. All these symptoms are immediate symptoms. In some few cases the diagnosis is more difficult. There are cases in which a large quantity of urine, which may even be clear, flows through the introduced catheter. In such cases the catheter has clearly traversed the rent in the bladder and entered the peritoneal cavity. The contrast between this and catheterization of the normal bladder, taken in conjunction with the symptoms elicited by palpation and percussion above the pubes, should assure the diagnosis.

To conclude, even taking into account exceptional cases, the function of the bladder is so markedly interfered with in these cases that a diagnosis should be made. The symptoms of beginning peritonitis should never be waited for. There is a history of traumatism to the suprapubic region, whether it be from a blow, the kick of a horse, a fall on the belly, or from the wheel of a wagon, and this at a moment when the bladder is presumably distended. The absence of the voluntary emission of urine and the impossibility of its withdrawal by catheter, the oft-repeated and painful desire to micturate should be considered of some importance. The mixture of blood with the small quantity of urine withdrawn by the catheter is only additional evidence, and of value only when taken with the other symptoms. There is no danger of confusing bladder rupture with kidney rupture, as the clinical pictures are far different. The catheter gives no evidence that cannot be obtained by palpation, percussion, and a close scrutiny of the early symptoms and history. Its use may result in the carrying of additional infection from the urethra, as in a case of gleet, to a peritoneal cavity that already has more infection than it can take care of and is clamoring, perhaps in vain, for relief. Of filling the bladder with sterile fluid too much condemnation cannot be expressed. If the rupture is incomplete or small the fluid may complete the tear or enlarge it; or the fluid flows into the peritoneal cavity carrying infection broadcast. It accomplishes no useful result. At most, it only serves to verify the suspected lesion, and in these cases to suspect is to operate.

Dr. Fowler further said that concerning the case of intestinal obstruction, the lesion itself is interesting and intestinal obstruction is always of importance to us. In looking over Treves' new edition, published this year by Wood & Co., the speaker found that he pays great attention to the emptying of the putrid contents of the bowel in these cases. His rule is in cases in which symptoms of obstruction have been present for forty-eight hours or over to always empty the bowel by incision, by forming an artificial anus, and allowing the bowel to drain in that way. If the obstruction is up high in the small intestine, this is injudicious, and he then expresses the contents of the bowel into the stomach and washes out the stomach at the time of operation. The speaker said that this point will bear a good deal of thought, because it has lowered the mortality, according to Treves, of obstruction cases fully fifty per cent.

Dr. A. T. Bristow said that he thought the remarks of Dr. Fowler may give rise to an erroneous impression with regard to these cases of rupture of the bladder. It is not necessary that in rupture of the bladder there should be an ardent desire to urinate; it is not necessary there should be tenderness; it is not necessary there should be shock. He had seen a man with a four-inch rupture in the fundus of the bladder with a temperature of 99°, and walking about the ward. In that case there was nothing whatever to guide him as to the diagnosis besides the fact that the man had passed but a couple of ounces of slightly bloody urine. The man, when drunk the previous evening, had fallen across a car-track, in crossing the street, and the fall ruptured a distended bladder. Dr. Bristow did an intraperitoneal operation and found a four-inch rupture across the fundus. What he wished to emphasize is the following: this man, to all appearances, had not received any severe injury whatever, he complained of no pain, there was no pain on pressure, no desire to urinate, and the only thing that called attention to the seriousness of the case sufficient to order him to bed was the fact that the interne reported a little blood in the urine he had passed that morning.

Neither did the speaker agree with the dictum laid down that salt solution should never be used in these cases. Of course, if we assume that every man that comes into the hospital has clap, that is another thing. As a matter of fact, he had used it in this case to verify the diagnosis. He thought a thing of that sort should be used with judgment, as every surgical means should be used with judgment. No prudent surgeon would put six or eight ounces of fluid into a bladder which was slightly torn. You can get all the information you want from two ounces of fluid; and it is information of value. He had seen another case in which the symptoms all pointed to rupture of the bladder in which the section proved there was no rupture. These cases are not always as easy to diagnose as the previous speaker would have us believe.

Dr. H. B. Delatour said that he had had three cases of rupture of the bladder come under his notice, only one of which he would speak of particularly. That was the case of a man who ruptured his bladder while wrestling. There was no blow, no injury to the abdominal wall at all, and he came into the hospital suffering from severe abdominal pains. He believed the accident occurred somewhere about 11 o'clock at night—a bar-room affair. It was a friendly wrestling match, not a fight of any sort; and it was along about noon the next day when he was brought to the hospital suffering with severe abdominal pain. He had voided some urine at frequent intervals. In that case he made a section and found a large tear, cross-wise—a lateral tear, well down close to the rectum. The patient lived only about twelve hours. The two other cases were cases of direct injury to the abdominal wall, and were not operated on for some twelve hours, and in one case the child was sent into the hospital about twenty-four hours after a wagon had passed over its abdomen.

Dr. R. W. Westbrook added, in closing, that what had been brought out by Dr. Delatour and Dr. Bristow shows that these injuries are very often overlooked. He could not believe that the statistics which he had quoted were correct. Bladder injuries must be very much more frequent than they are made out to be; and it shows us we ought to be more on the look-out for them than perhaps we are. He thought Dr. Bristow was to be congratulated on the diagnosis he made in his case, such cases being most difficult of diagnosis.

SARCOMA OF THE HEAD OF THE TIBIA.

Dr. J. P. Warbasse presented two recent specimens of sarcoma of the head of the tibia. The specimens were from patients in the service of Dr. Pilcher in the Methodist Episcopal Hospital. The cases were operated on about two weeks before, and were in the hospital at the time of reporting.

The first was a sarcoma of the head of the tibia, which occurred in a man 69 years of age, a man naturally rugged and hearty, and without any history of traumatism. Seven years ago this man observed a pain at the upper part of the tibia, unaccompanied by swelling or tenderness. This pain was particularly bad at night. When he arose in the morning and went about the pain subsided and he was troubled less with pain during the hours of activity. During the quiescent period of the night the pain would recur; and this continued for seven years. About a year ago the pain became aggravated, and then he observed a slight swelling at the outer side of the tibia just below the head of the bone—at the outer side of the insertion of the patellar tendon. With the appearance of this swelling the pain became worse and he presented himself at the hospital for operative relief. An incision over the swelling showed a soft tumor presenting itself through the bone, the incision of which showed that this tumor involved a considerable part of the head of the tibia. It could be observed in the specimen that a part of the tumor had been removed by curette for microscopic study. The diagnosis was unquestionably one of sarcoma, and the man's consent to operation not having been secured, amputation was deferred until he could be consulted. The wound was closed and a few days later he was subjected to an amputation in the lower third of the thigh. The speaker remarked concerning this case that the man was suffering also from diabetes. During his stay in the hospital his urine had showed as much as eleven grains of sugar to the ounce, and he had passed quantities of urine varying from 60 ounces up to 130 ounces in the 24 hours; so that this man had to contend not only with the traumatism of thigh amputation, but such a traumatism in a case of diabetes in a man 69 years of age.

In this case the man recovered from his operation perfectly; there were comparatively little shock and depression as a result of the traumatism of operation; and for a week the appearance of the wound was healthy. Gradually, however, there developed signs of the breaking down of the stump; and at the time of reporting he had a suppurating wound. He passed 134 ounces of urine three days before; and the amount of sugar since the operation had been even more than prior to the operation. The specimen was presented. The speaker doubted if this sarcoma, which is of the round-cell variety, had existed during these seven years; what the lesion had been during that time it is hard to say. The patient may possibly have suffered from myelitis, chronic in type; but evidently the development of the malignant tumor dated from only a year ago.

The second specimen presented by Dr. Warbasse was a sarcoma of the upper end of the tibia, which had its location about the same as the previous specimen. It was from a man 41 years of age, a robust German, who, nine months before, had sustained a traumatism to the location where later the growth developed. Following the traumatism, he was confined in bed, that is, he was unable to walk on account of the pain and tenderness for about a week, at the end of which he went about his business, suffering, however, from pain. He was under medical treatment and medical advice during several months. He experienced no improvement, and entered an hospital in this city, where he was subjected to operation. The operation done at that time was evidently an incision and a curetting of the diseased bone. After this operation, he was retained in that hospital for five weeks; and a week after his discharge he entered the Methodist Episcopal Hospital. There was a sinus at the outer side of the tubercle of the tibia, into which a probe could be passed a distance of perhaps two inches. This was evidently the sinus of the former operation. An incision was made and the sarcoma which is reported found. The cavity which is presented in the specimen is the result of curetting out the soft part of the tumor which was done at that time, a diagnosis of sarcoma at this operation not having been made. Microscopic examination of the material scraped out of the bone showed a giant-cell sarcoma, a very perfect specimen of that type of growth. The microscopic diagnosis is an easy question. From the clinical aspect and from the gross appearances of the tumor it would be a matter of some question to decide whether we had to deal with an inflammatory process or a malignant growth. The peculiar feature presenting itself in the gross appearance in this specimen is the erosion of bone which marks the encroaching of the sarcoma cells upon the bone tissue. The line of red demarkation which circumscribes the tumor is the bloody exudate, which is the result of the curetting and the traumatism which was inflicted by the operation a week before the amputation. The cavity, after the first operation, was packed with gauze and there was more or less of a free discharge of pus; indeed, there was an infection with pyogenic bacteria. The speaker subjected this man to amputation at the junction of the lower and middle third of the thigh. In this case, the patient being a perfectly healthy man, a perfectly solid union took place; and now at the end of two weeks, the stump is perfectly healed and dry.

DISCUSSION.

Dr. A. T. Bristow said that concerning the last specimen Dr. Warbasse showed, he would call attention to the fact that around the area of disease there had been an eburnating osteitis, which, to his mind, suggested an inflammatory lesion rather than sarcoma. He doubted very much if that was sarcoma. He said that we all know the liability to error and mistake in these sarcomas, and the number of times in which our clinical experience has shown that the microscope has confused the cells of inflammation with the cells of the sarcoma. He would not expect to see such an area as that if the disease had been sarcoma.

Dr. J. S. Wight said that he would be pleased to draw attention to just one point in these cases of osteosarcoma in any of the bones, and that is the enormous and terrible percentage of death, whether you operate or whatever you do; sooner or later—almost always sooner—the patients die.

Dr. Warbasse said that concerning this last specimen which he had presented, it was a perfect specimen of giant-cell sarcoma. The clinical picture may be deceiving and the gross appearances also, but the microscopic picture of giant-cell sarcoma cannot be confused with inflammatory tissue or any other sort of tissue. It is very true that in the round-cell sarcomata, particularly in the small round-cell growths, a differential diagnosis from inflammatory induration is often difficult; but, even in that class of sarcoma, under a careful microscopical examination, the diagnosis may be made positive. The speaker said that he should like to discuss at length this question of the anatomical differences between sarcoma and inflammatory tissue. It is a point which is well worthy of consideration; but he was confident that the diagnosis even between the mixed-cell and the small round-cell sarcoma and inflammatory deposit may be quite positively made. He mentioned one feature, and that is this: in sarcomatous deposit there is the peculiar cellular type which a given sarcoma follows, whether it be round-cell or spindle-cell or mixed-cell, the sarcomatous tissue, the malignant tissue, presents always the appearance of that peculiar type; whether it infiltrates the tissues or whether it is found in the bulk of the tumor itself. In inflammatory tissue we find, of course, the round-cells, and we find the spindle-cells, but there is always the picture of an interchange of round-cells and spindle-cells, the first merging over into the latter and finally, if a sufficient number of sections are made or if sections are made in proper places, the points will be found where finally the spindle-cells merge into the fibrous tissue, the unnucleated tissue of inflammation, the first sign, the beginning of cicatrical tissue. These features are absent in sarcoma. In this particular case, however—and the speaker expressed the belief that Dr. Bristow would not question the microscopic appearance—he would be glad to have him see the slides of this specimen. There can be no question, because of the very typical picture of giant-cell sarcoma. These cells are never mistaken for the products of inflammation. The tumor, which was curetted out a week before the amputation, is surrounded by a zone of inflammatory deposit, which is the result of the curetting and subsequent suppuration.

Dr. Russell S. Fowler said that Dr. Wight had called attention to the final outcome of these cases. He said that he had made rather an extensive study of sarcoma of the upper extremity, and a good many do badly with any form of operation. Of the seventy-two cases he had studied and tabulated he had found that the mortality of the operation itself is 10 per cent.; and that not over 40 per cent. of these cases have been in good health at least one year after the operation. That is as much as can be hoped for. We do not expect to cure these cases finally, so much as to prevent recurrence of the disease for as long a time as possible.

Dr. Fowler said that he would like also to report at this time that the case of intrascapulothoracic amputation of the shoulder, which he reported at the first meeting last year, is still doing well. This was a case in which he removed the entire upper extremity for sarcoma of the lower end of the humerus about four months before the time of the report, which was sixteen months ago. He presented the specimen.

BROOKLYN GYNECOLOGICAL SOCIETY.

Stated Meeting November 3, 1899.

The President, Dr. R. L. Dickinson, in the Chair.

The minutes of the previous meeting were read and approved.

PRESENTATION OF SPECIMENS.

Pus Kidney: Dr. L. G. Baldwin.

This specimen is not strictly in the line of gynecology, but I venture to present it.

It is a kidney from a woman 37 years old, married for a number of years, and sterile. She first came under my care in May, 1894; at that time her symptom was backache extending to the left side; nothing was found on pelvic examination, and no treatment was instituted. She next came under my care in December, 1897, with a history of having had, four weeks before, several severe attacks of pain in the left side. At that time it was not diagnosed by me as a renal pain, but rather as tubal pain, although examination revealed nothing, or, rather, failed to show any cause for the pain. About a week later, the first week in January, 1898, she had another attack of pain, which her family physician did diagnose as renal colic. I saw nothing more of her until two weeks ago yesterday, when she was brought to Brooklyn from Chautauqua on a bed. The history after leaving me in 1898 up to the present time had been one of continuous suffering, and especially since March, 1899. In December, 1897, her main symptom was frequent and painful urination, but the urine was clear and showed no evidence of inflammatory condition about the urinary tract whatever. When she was brought here two weeks ago she was in about as wretched condition as one could imagine. The temperature rose every afternoon up to 102° to 104° F. and subsided on some occasions to sub-normal. She was extremely nervous and emaciated, cachectic and thoroughly septic, with an almost constant desire to urinate; the pain complained of then was only slight and in the region of the left kidney. The difficulties of the examination were so great that the kidney at the first examination could not be palpated with any degree of success. A specimen of the urine showed half by volume of pus, which on examination by the pathologist showed no evidence of kidney lesion, and it also showed very little evidence of bladder lesion, and, in fact, nothing but plain, simple pus. I might also say that it showed no tubercular bacilli. I first hoped it was nothing but a cystitis, but after an examination of the urine it seemed to me certainly it was either a pus kidney or there had been a pelvic abscess which had broken into the bladder, but that I felt I had fairly excluded. A No. 6 Jacques catheter could not be passed through the urethra on account of a stricture and the great pain it gave her. I determined to go through, and if possible explore the ureter and ascertain if the right kidney was also involved, but when she was under ether the left kidney was so large and so grossly diseased, and the right one on palpation was so easily felt and so small and the patient's condition was so wretched, that we decided to only dilate the urethra and proceed at once to remove the kidney, which I did three days ago. The operation was done through the back, and the peritoneal cavity was not opened. The only difficulties encountered were the size of the kidney, necessitating the making of a large triangular incision, and that, after the kidney was enucleated to get it up high enough to ligate; and as time was a very important element I did not waste any in doing it, but used two pairs of Wight's forceps and left them on for forty-eight hours. The temperature that night subsided from 104° at the time of operation to 100°, the next day it went to 102°, and then subsided to normal and remained there. I packed the wound with gauze, which is still in situ.

DISCUSSION.

Dr. De Forest: After removing the kidney and examining it, is Dr. Baldwin still of the belief that there is no tubercular trouble there?

Dr. McNaughton: Dr. Baldwin apologizes for presenting this specimen. As Dr. Jewett suggests, he ought to be commended, because it is in the line of the work of a man who is doing gynecology. Abdominal surgery is the legitimate work of the gynecologist. I think this is usually accepted at the present time.

I have nothing to say about Dr. Baldwin's case, but I would like to make further report of a case of which I gave the history here some time ago, in which there was an enormously enlarged kidney removed, which was tubercular. The patient returned subsequently and the remaining kidney was found very much enlarged, almost as large as the one I removed, yet she has been living for several months fairly comfortably.

Dr. Jewett: I must endorse the propriety of including the kidney in the field of gynecological surgery, especially since it is connected so intimately with the bladder. Whatever we may say of the gall-bladder and stomach, we cannot leave out the kidney.

I would like to ask whether in this case the ureter was removed—I understood not—and if it was not infected; also if the doctor has not usually found sufficient room with Morris's incision.

Dr. Maddren: The fact that the temperature was above normal would tend to prove that it was more than a cystic kidney. This might occur from a suppurating cystic kidney, of course. I understood there was no diagnostic evidence of tubercular trouble. I think that it is often the case with a really tubercular kidney, that you fail to get the bacilli in the urine. It would be interesting to know whether the doctor found any evidence of tubercular disease in the kidney after it had been removed.

Dr. Polak: This specimen impressed me as being a beautiful one, and I noticed what an extremely thin cortex it had. In these pus-kidneys, as a rule, there is a hyperplasia of the tissue, the glandular tissue being forced out by hyperplastic tissue and pus-cavities.

I would like to ask whether in Dr. McNaughton's case the tuberculosis was not primarily in the bladder, and was it not an ascending tuberculosis on both sides. It is very rare for it to begin in one kidney and travel around, particularly if that kidney has been removed.

You get ample room to work with by making what is sometimes called the Koenig incision, but perhaps it is more properly very similar to that incision of Kelly's, beginning at the last rib and sweeping over the anterior spine well forward, and in that way you can do an extra-peritoneal operation and at the same time you have such an amount of space that you have very little trouble in turning up the kidney and ligating the vessels—and ligating the vessels is a rather difficult performance, particularly until you get the ureter free. It facilitates matters to sever your ureter and then go after the ureter if necessary a second time.

Dr. Jewett: That is Morris's incision.

Dr. McNaughton: Answering Dr. Polak—She came with diseased kidney; I do not know whether it originated in the bladder. I removed as much of the ureter as I could, but not the whole of it, and that may have been infected and the bladder subsequently become infected.

Dr. Baldwin: There is no question whatever of this being a cystic kidney, with a large quantity of bad smelling pus which we estimated at a pint or a pint and a half; we all know how difficult it is to estimate running fluid—simply impossible.

As to whether it is tubercular or not, I have no knowledge further than that obtained from the examination of the urine. It has not yet been examined microscopically. As far as my experience with pus-kidneys goes, if the history of it began back in 1894, as I suspect it did with rather pronounced attack of renal colic, I should rather be inclined to think it may have been a stone originally rather than tubercular, yet of that, of course, there is no possible evidence. As to removing the ureter, had any of you seen the case I do not believe you would have attempted to remove it. It can be done, but it takes time, and is not altogether an easy job. I felt I was conserving the best interest of my patient by getting her back to bed as quickly as possible with the pus-sac removed and the ureter remaining.

The point made by Dr. Polak—the thin wall of this was very pronounced, and even when the aspirating needle was pushed in it tore with the wiggle of the needle, so I freely incised it and the pus ran over everything.

NARRATION OF CASES.

Congenital cataract in new-born child: Report of Case.

Dr. de Forest: I attended a woman in confinement on the first of September, at the end of eight and one-half months of pregnancy. Her child was therefore somewhat premature; the fontanelles were wide open and the space between the two parietal bones was about the breadth of two fingers.

When the child came to be examined carefully it was found that both eyes showed a curious opalescence, due to imperfect development of the crystalline lens and a so-called congenital cataract existed. I have never before had the misfortune to see such a case, and the literature on the subject is very meager. I would like to be informed what the chances are for the lens to complete its imperfect development; what the chances are for the development of the retina, if it also be imperfectly developed in such cases; and finally, if the caratact be removed by operation, how soon it should be removed, and what the probabilities of good eyesight are. The condition in one eye is rather more pronounced than in the other, but the appearance in both is exactly the same as in the cataract of advancing age.

The President: I understand that either in that case or a similar case an opinion has been given by a specialist on the eye, that the lens will have to be removed in order to develop the retina.

Dr. de Forest: It is only fair to say that there has been an opinion expressed by an oculist on the very subject. The child has been taken to a competent oculist, and he has made the statement that if the lens be not removed the retina will probably not develop. Now that does not seem to me to be fair logic; if there be an imperfect development of the eye, then the retina, too, is imperfectly developed, and taking out the lens or not taking it out, does not interfere with the development of the retina one way or the other. The cases are extremely uncommon, and with the possibility of nature clearing up the crystalline lens unaided, I felt uncertain as to the advisability of an immediate operation. That is why I narrated the case, thinking some of the gentlemen had seen similar cases and could tell me exactly the ultimate outcome.

The President: Would Dr. Jewett think that the rapidity with which corneal opacity cleared up had any bearing on the question of the clearing of the lens?

Dr. Jewett: I should hardly feel like posing as a competent oculist on a question of that kind; on a simple one I might. I agree with Dr. de Forest that the physical development is likely to go on in any case, whether the lens is removed or not.

Dr. McNaughton: I might mention a novel case; a colored woman, about 40 years old, noticed an abdominal tumor ten or twelve years ago which had grown to a conspicuous extent, but had not given any pain or inconvenience; menstruation fairly normal, not excessive; but recently the tumor had been rapidly increasing in size, and on consultation, in spite of the fact that she had no particularly severe symptoms, we concluded to operate. We did, and removed the uterus with a fibroid tumor. I should think the mass would weigh fifteen or seventeen pounds, and underneath that we found that she had a double hydrosalpinx and an ovarian cyst, which accounted for the peculiar condition found upon vaginal examination. I never have seen a patient get along better, no trouble whatever; perfectly satisfactory convalescence.

Dr. Polak gave a demonstration on the manikin of the management of the breech in labor.

Discussion by Drs. Jewett, Dickinson, de Forest, Maddren, L. G. Langstaff.

The society then went into executive session.

Frederic J. Shoop,
Recording Secretary.

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MEDICAL SOCIETY OF THE COUNTY OF KINGS.

715th Regular Meeting, Tuesday, December 19, 1899.

The President, Joseph H. Hunt, in the Chair.

The minutes of the previous meeting were read and approved.

REPORT OF COUNCIL.

The Council report favorably upon:

Susan George Southerland, 344 Putnam avenue, Cornell Univ. Medical Col., 1899.

Alfred Edward Shipley, 289 Keap street, Columbia College, 1899.

George W. Beatty, 71 Stuyvesant avenue, L. I. C. H., 1898.

Elizabeth M. Sturgis, 108 Wilson street, N. Y. Female Med. Col., 1895.

Robert Francis Cunnion, 304 Jay street, Columbia Col., 1892.

George Armon Clark, 336 Ninth street, L. I. C. H., 1898.

Charles P. Frischbier, 200 Graham avenue, L. I. C. H., 1899.

Robert Kingman, 349-A Gates avenue, L. I. C. H., 1899.

Robert Leston Irish, N. Y. Univ., 1899.

Robert Ernest Kinloch, 283 Franklin avenue, Albany Medical Col., 1899.

Carroll Chase, 263 Hancock street, L. I. C. H., 1899.

David E. Hoag, 985 Lafayette avenue, Univ. of Maryland, 1896.

Frank E. A. Stoney, 229 Eighty-second street, L. I. C. H., 1897.

Stewart Lewis, 496 Vanderbilt avenue, N. Y. Univ., 1897.

Arthur V. Payne, N. Y. Univ., 1897.

Thomas Ennis McCarthy, 372 State street, L. I. C. H., 1898.

APPLICATIONS FOR MEMBERSHIP.

Isaac L. Doughty, P. & S., N. Y., 1898, Kings Co. Hospital. Nominated by Chas. D. Napier. Endorsed by J. M. Winfield.

Walter Scott Grant, 350 Stuyvesant avenue, Univ. of Penn., 1899. Nominated by Membership Committee.

Charles George O'Connor, 400 Pacific street, P. & S., N. Y., 1899. Nominated by Membership Committee.

Emory M. Wadsworth, 60 Brooklyn avenue, Univ. of Buffalo, 1898. Nominated by Membership Committee.

Ralph Tousey, 138 Clinton street, P. & S., N. Y., 1898. Nominated by Membership Committee.

Harlow C. McLeod, 499 Washington avenue, P. & S., N. Y., 1898. Nominated by Membership Committee.

Emanuel Edman, 537 Pacific street, N. Y. Univ., 1889. Nominated by Membership Committee.

Stanley H. MacGillvary, 820 Bedford avenue, Bell. Med. Col., 1890. Nominated by Membership Committee.

Reginald H. M. Banbury, 44 St. Felix street, L. I. C. H., 1897. Nominated by E. M. De Castro. Endorsed by W. J. McAveny.

Arthur R. Jarrett, 95 Halsey street, L. I. C. H., 1879. Nominated by Henry P. de Forest. Endorsed by James P. Warbasse.

Elizabeth Hatton, 508 Third street, Cornell, 1899. Nominated by George R. Fowler. Endorsed by Henry P. de Forest.

William J. Cullen, 192 Dean street, L. I. C. H., 1892. Nominated by William N. Belcher. Endorsed by Joseph H. Hunt.

Walter Bryan, St. John's place, N. Y. Univ., 1890. Nominated by J. F. Golding. Endorsed by T. J. MacFarlane.

ELECTION OF MEMBERS.

The following having been regularly proposed and favorably acted upon by the Council, are declared by the President, elected to membership:

George E. Everson.

Alex. L. Anderson.

Carl F. H. Fischer.
Benj. F. Knause.
Frederick LeBrun Brady.

SCIENTIFIC BUSINESS.

Paper: "Dispensary Experience," by Francis S. Kennedy. Discussed by Arthur C. Brush, Joseph H. Raymond, Henry P. de Forest, J. M. Van Cott, E. H. Bartley, Nelson L. North, and William Schroeder.

On motion of Dr. Van Cott, a committee of three, namely Drs. Van Cott, Arthur C. Brush, and Francis S. Kennedy, were appointed by the President to consider the matter of dispensary reform, and take preliminary steps toward bringing about such reform.

Paper: "A Consideration of the Radical Treatment of Hemorrhoids," by William Francis Campbell. Discussed by Drs. A. J. C. Skene, Warbasse, Chase, Walter C. Wood, McNaughton, Shoop and Van Cott.

MISCELLANEOUS BUSINESS.

Reports of Committees:

The Legislative Committee on the latitude of Coroner reported progress.

The Council reported adversely on the question of placing a copyright on articles published in the BROOKLYN MEDICAL JOURNAL; the general courtesy recognized among publishers practically insures due credit when its contents are quoted; this broad license is, therefore, to our advantage; its columns would not be so freely quoted when covered by copyright. The recent instance of discourtesy emanated from an over-zealous commercial house.

On motion, this report of Council was accepted and adopted.

Dr. Maddren reported on behalf of the Building Committee that the Annual Meeting of the Society could be held in the auditorium of the new building, although the building would not be ready to turn over to the Society until perhaps the subsequent month.

The Associate Secretary, Dr. Morrison, moved, on behalf of the Council, to reconsider the action taken by the Society at the November meeting favoring the objects of the Dubuque Bill concerning the delinquent debtors.

This motion was seconded and carried.

The action in reference to the Dubuque Bill, taken at the November meeting, and the resolution then adopted, was reconsidered, and, on motion, duly seconded, the action then taken was rescinded, and the Society declared itself as not in favor of endorsing the matter of the Dubuque Bill.

NOMINATION OF OFFICERS.

The following nominations were made:

For President—Elias H. Bartley, Lewis S. Pilcher.

Vice-President—Henry A. Fairbairn, Charles N. Cox.

Secretary—David Myerle.

Associate Secretary—Robert J. Morrison.

Treasurer—O. A. Gordon.

Associate Treasurer—Heber N. Hoople, Charles D. Napier, John R. Stivers.

Librarian—William Browning, James M. Winfield.

Censors (5)—Walter C. Wood, James M. Winfield, William Francis Campbell, John E. Sheppard, John B. Zabriskie, Dr. L. N. Foote, Frank Baldwin, H. B. Delatour, Charles Zellhoefer, J. W. Ingalls, J. M. Van Cott, Eugene P. Hickok, Albert H. Brundage.

Trustee (1)—Calvin F. Barber, Joseph H. Hunt.

Delegate to State Medical Society—Warren S. Shattuck, Jr., William B. Brinsmade, James W. Fleming.

AMENDMENTS TO BY-LAWS.

The following amendments to the By-laws were presented, to be voted on at the annual meeting:

By the Secretary: Amendment to Sec. 6, Chap. XIII.

The Council may, on a petition signed by fifteen members of the Society specially interested in any branch of medical or surgical science, authorize the organization of a section of the Society for the consideration of matters pertaining to that special branch of medical science.

An affirmative vote of two-thirds of the members of the whole Council shall be necessary for such authorization.

Special Sections of the Society may adopt By-laws for their government not inconsistent with the Constitution and By-laws of the Society. They shall meet in the Society building, and at such time as shall be agreed upon with the Council, other than at times appointed for the stated meetings of the Society, and without expense to them for rental.

By Dr. Browning:

Amend:

Chap. I., Sec. 3—Instead of Librarian, read Directing Librarian.

Chap. III., Sec. 8—Insert Directing before Librarian.

Chap. X., Sec. 1 and Sec. 3—Insert Directing before Librarian.

Chap. X., Sec. 1—Drop the word Assistant before Librarian.

Chap. XXI., Sec. 3—Insert Directing before Librarian.

NEW BUSINESS.

The Secretary presented the resignation of Dr. F. Weygandt as a member of the Society, which, on motion duly seconded, was referred to the Secretary.

The resignation of Dr. S. H. Monell, on account of removal from Brooklyn, was also presented, and, on motion, referred to the Secretary to ask the doctor to become a corresponding member.

The Secretary announced the death of Dr. Gustave Schmetzer. Referred to the Historical Committee.

There being no further business, on motion, adjourned.

R. J. Morrison,
Associate Secretary.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

The seventy-ninth annual meeting of the Society was held on January 16, 1900, in the new building, on Bedford avenue. There were 316 members present. The following officers were elected for the current year: President, Lewis S. Pilcher; vice-president, Henry A. Fairbairn; secretary, David A. Myerle; associate secretary, Robert J. Morrison; treasurer, O. A. Gordon; associate treasurer, John R. Stivers; librarian, William Browning; censors, Walter C. Wood, James M. Winfield, William F. Campbell, John E. Sheppard, and H. B. De Latour; trustee, Joseph H. Hunt; delegate to State Medical Society, William B. Brinsmade.

BROOKLYN PEDIATRIC SOCIETY.

This society was organized on the 31st of October, 1899, by a number of gentlemen interested in pediatrics. Three meetings have been held and the membership considerably increased. All those especially interested in the diseases of children are cordially invited to attend the meetings of the society, which are held at 102 Court Street, on the third Friday evening of each month at 8:30.

Wm. A. Northridge,
Secretary.

BROOKLYN SOCIETY FOR NEUROLOGY.

At the annual meeting of this society, the following officers were elected for the ensuing year: President, William Browning, M.D.; Vice-President, R. C. F. Coombes, M.D.; Secretary, W. H. Haynes, M.D.

HISTORICAL DEPARTMENT.

JAMES LITTLE KORTRIGHT, B.S., M.D.

Dr. Kortright was born in Brooklyn, N. Y., Sept. 14, 1859, and died at Middletown, N. Y., Aug. 14, 1899. His grandfather was Solomon Kortright, and his father William F. Kortright of Orange County, N. Y. His mother was Louisa Little, a daughter of Col. William Little of Orange County, N. Y.

Dr. Kortright married Miss Alice McDougall of Brooklyn, N. Y., on April 19th, 1887; and Eda Louisa, Warren Post, and Miriam Kortright are the children born as a result of this union.

The doctor's education was received in the following schools: Public schools of Westfield, N. J., 1866-67; Mount Hope, N. Y., 1867-68; Westfield, N. J., 1868-70; and Brooklyn, N. Y., 1870-74; Polytechnic Institute, Brooklyn, N. Y., 1874-75; University of New York, B.S., 1878.

His medical education, under the perceptorship of Charles A. Kinch, M.D., of New York, began in 1878, and he graduated M.D. from the College of Physicians and Surgeons of New

JAMES LITTLE KORTRIGHT, B.S., M.D.

York in 1881; a year as interne in the New York Foundling Asylum followed, and in 1882 he began the practice of medicine in the city of Brooklyn, where he remained until 1898, when he removed to Middletown, N. Y.

During his professional life he was from 1883 to '87 pathologist to St. Catherine's Hospital and visiting physician from 1887 to '92, and visiting physician to the Kings County Hospital during the years 1892-93. His connection wtih medical societies was as follows: 1882-99, Medical Society, County of Kings (Censor, 1896, '97 and '98); 1883-99, New York Physicians' Mutual Aid Association; 1893-99, Brooklyn Gynecological Society; 1896-99, Brooklyn Medical Society; 1892-99, Society for the Relief of Widows and Orphans of Medical Men, of which he was one of the Board of Managers; member of the Phi Beta Kappa Society, and an Elder in the South Third Street Presbyterian Church.

His contributions to medical literature were of a high order, and consisted of the following papers: "Case of Rupture of the Diaphragm," "Unusual Mechanism in Shoulder Delivery," "Discussion on Empyema, St. Catherine Hospital," Dystocia from Impaction of the Shoulder," "Tumors of the Vulva," "Prophylaxis of Abortion," "Causes of Death of Medical Men in New York and Brooklyn," "Should Midwives Be Registered," "Dermoid Cyst of the Ovary with Pregnancy," "Puerperal Mortality in Brooklyn During the Year 1895," "The Value of the Physician to the Public," "The Kidney and Pregnancy," "Antepartum Hemorrhage."

His papers on "The Causes of Death of Medical Men," and "The Value of the Physician to the Public," awakened wide interest and are valuable additions to the literature of medical sociology. The latter was reprinted in a pamphlet for general circulation by the Medical Society of the County of Kings, with other papers calculated to show the public the value of the medical profession and interest them in the new library building now being completed on Bedford Avenue.

It is the lot of few to be more beloved or more affectionately spoken of by their patients than Doctor Kortright, and his withdrawal from active practice before his friends perceived his failing physical condition was caused by the conscious feeling that he could not give them his best work.

William Schroeder, M.D.,
Sec. of the Historical Committee.

ABRAHAM J. BERRY, M.D.

About the commencement of the last century Richard W. Woodhull purchased a tract of land in the vicinity of North Second Street and established the first ferry to New York. Out of a compliment to his friend, Col. Williams, U.S. Engineer, he named it Williamsburgh.

The first village charter was obtained April 14, 1827. The second village charter, to extend the limits of Williamsburgh, dates April 18, 1835, and the city charter was passed April, 1851, and went into effect on January 1, 1852. The consolidation of Williamsburgh with the city of Brooklyn bears date April, 1854. (The month of April seems to have played an important part in all these transactions.)

Abraham J. Berry, M.D., was born in Bushwick, L. I., in 1798, and died in Brooklyn October 22, 1865. His office was at 44 South Ninth Street. He was a member of the Williamsburgh Medical Society, and Consulting Surgeon to the Williamsburgh Dispensary, 1851-1859. He was appointed one of the commissioners to provide for the laying out of Prospect Park, and in 1850 was President of the Williamsburgh Lyceum.

He was elected the first Mayor of Williamsburgh in November, 1851, and served during the years 1852-53, resuming private practice until 1861, when he accepted the position of Surgeon in the Thirty-eighth New York Regiment of Volunteer Infantry, serving until 1863, in which year he was appointed by Gov. Seymour as one of the Volunteer Corps of Surgeons, having contracted dysentery while serving in the army, from the effects of which he never recovered.

His medical education was received at the College of Physicians and Surgeons, New York, graduating M.D. in the class of 1828. He was for a number of years a member of the vestry of Christ Church, Brooklyn, E.D.

William Schroeder, M.D.,
Secretary of the Historical Committee.

ABRAHAM J. BERRY, M.D.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL ***are deposited permanently in the Library of the Medical Society of the County of Kings.***

A POCKET TEXT-BOOK OF THEORY AND PRACTICE OF MEDICINE. By George E. Malsbary, M.D., Assistant to the Chair of Theory and Practice of Medicine, Medical College of Ohio, Cincinnati. Lea's Series of Pocket Text-Books. In one handsome 12mo. volume of 405 pages, with 45 illustrations. Cloth, $1.75, net.

We would remark that a pocket large enough to hold this volume would compare favorably with a saddle-bag. It is a compendium. It deals with the whole subject in 388 pages. The type is not small. It will serve well the purpose for which it was written—a quick and comfortable reference. There is nothing new in its pages. It is well-illustrated and up-to-date.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare, M.D. Vol. III. September, 1899. Contents: "Diseases of the Thorax and Its Viscera, Including the Heart, Lungs, and Blood-vessels," by William Ewart, M.D., F.R.C.P. "Diseases of the Skin," by Henry W. Stelwagon, M.D. "Diseases of the Nervous System," by William G. Spiller, M.D. "Obstetrics," by Richard C. Norris, M.D.

We have had an enjoyable time with this volume. It has kept to its subject. It has not wearied us with a mere dry statement of facts, but has gone into the philosophy of those facts. The latter have been gathered from the literature of the last year, and then collated and intelligently commented upon.

In the first chapter the opening paragraph is on percussion and auscultation, and the question of the use of the pleximeter is taken up. The reader will be interested in the information said to be gathered from careful percussion of the vertebral spines.

In the bronchopneumonia of children some remarkable results from the belladonna treatment are recorded. The dose administered was one-quarter grain of the extract every three or four hours, irrespective of age and with no bad results. That is interesting, to say the least, but we are inclined to think that we will move a little bit cautiously along these lines, as we will when we use formalin spray 1 per cent.

Taschner's "pertussin" (thymol, 1 part; syrup, 7 parts) is favorably spoken of as a remedy for whooping-cough, chronic catarrh of the larynx, emphysema! The stomach is indeed a patient servant.

Roy's inhalation of menthol camphor as a clinical method of diagnosis of pulmonary tuberculosis is quoted. It is novel. The numerous methods of treatment of the disease brought out during the past year are a sad commentary on the therapeutic knowledge of the condition.

The forty pages devoted to a consideration of diseases of the heart and cardiac therapeutics are worth the price of the book.

If time allowed we would point out many interesting features in the remaining chapters.

With the large number of year-books now at hand, each containing thorough digests of current literature, the profession ought to be distinguished for its learning. If it is not, there must be a great lack of aptitude for study. The material is placed within the reach of all and at small price.

A LABORATORY MANUAL OF PHYSIOLOGICAL CHEMISTRY. By Elbert W. Rockwood, B.S., M.D., Professor of Chemistry and Toxicology in the University of Iowa. Pp. vii, 204, plates iv. The F. A. Davis Company, New York, Philadelphia and Chicago. 1899.

This is an excellent little laboratory guide for beginners in physiologic chemistry.

In the preface the author declares himself "firmly convinced of the superiority of the laboratory method of instruction over the didactic, . . ." and states, as the aim of the book, the imparting of accurate knowledge through the student's own observation.

Most of the experiments are very simple; and the directions for performing them are so explicit that any one who has had the simplest laboratory training in chemistry can use the book for self-instruction.

Care has been taken to arrange the experiments, as nearly as practicable, in logical sequence, so that the student advances readily from the more simple to the more complex.

The classification given of proteins and proteids is somewhat peculiar; but, inasmuch as no really scientific classification of these substances is yet possible, criticism on this point is scarcely justifiable.

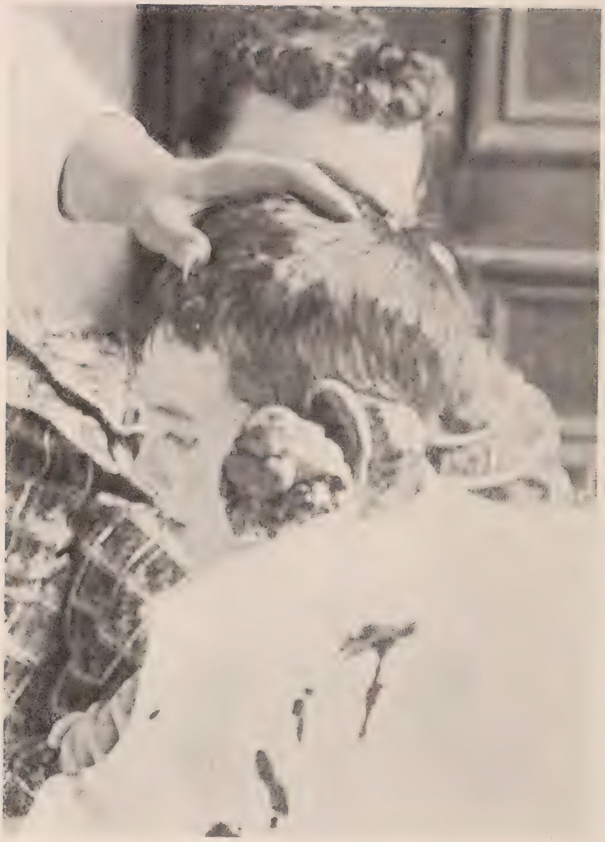
Under the heading "Starch" (p. 5) the author states correctly that maltose is the end-product of the action of ptyalin on starch. But in experiments 145, 146 and 147 (pp. 61-62) he distinctly gives the impression that glucose is the sugar thus formed. Again, on page 63, he refers to glucose as formed from starch by salivary action; and on p. 87 asserts that "amylopsin converts starch into glucose as ptyalin does." With this repeated error corrected, the sections on digestion are very good.

The sections on blood and bile are excellent, especially the experiments showing the relations of the coloring matters.

The section on urine is also very well written.

JOHN C. CARDWELL.

The Brooklyn Gynecological Society held its January meeting in the Polhemus Memorial Clinic, at which Prof. Charles Jewett read a paper entitled "Observations on the Obstetric Surgery of Pelvic Contraction." The Medical Society of the County of Kings and the Kings County Medical Association were the guests of the evening. After the reading of the paper, a generous collation was provided by the society, and the building was thrown open to inspection. About 250 physicians were present.



SARCOMA OF THE MASTOID.

Presented by STEPHEN H. LUTZ, M.D.

BROOKLYN PATHOLOGICAL SOCIETY.

408th Stated Meeting, Thursday, November 9, 1899.

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION II.—EDGAR A. DAY, M.D., CHAIRMAN.

Page.

"Sarcoma of the Mastoid:" History and Illustration. 130

Stephen H. Lutz, M.D.

"Epithelioma of the Auricle:" Patient, History and Illustration 132

Henry A. Alderton, M.D.

"Carcinoma of the Cecum; Resection of Cecum and Portion of the Ascending Colon, Report of the Condition of the Patient Two Years After the Operation:" History and Specimen 136

George Ryerson Fowler, M.D.

"Littré's Hernia:" Paper and Specimens......... 137

Arthur H. Bogart, M.D.

"Aneurism of the Aorta:" Specimen and Report of Autopsy 139

William A. Payne, M.D.

"Diplococcus Intracellularis Meningitidis:" Paper and Demonstration 141

Jerome B. Thomas, M.D.

SARCOMA OF THE MASTOID: HISTORY AND ILLUSTRATION.

Stephen H. Lutz, M.D.

H. P., aged 9½ years, came to me July, 2, 1898. He had been treated by his family physician for about six weeks. He complained of pain in the left ear, from which there was a discharge of very foul-smelling, thick pus. A granulation polyp had been removed, with curette, by family physician. When I examined the ear I found in the canal, obscuring all view of the membrana tympani, a growth looking like a granuloma, protruding about half an inch and surrounded by very thick fetid pus. I removed the polyp with Blake's snare, touched the base with mono-chlor-phenol, and prescribed the regular home treatment. In two days he returned, and while the discharge was less and the condition of the ear was much improved, the middle ear could not be seen on account of the granulation tissue which apparently filled the canal. The little fellow had also suffered much pain, his mother told me, more at night than during the day.

He returned in three days. No more pain, but the canal was half full of granulations, almost as much as at first visit. After cocainizing the ear thoroughly I removed the mass with curette and chromic acid.

The next day the condition was improved and I could feel with the probe several small spots of denuded bone in the middle ear, and a great deal of necrosis in the vault of the tympanum. I saw this granulation mass appear and grow larger several times and each time removed it, and at last advised an operation for the purpose of getting rid of the necrosed bone.

On November 12, 1898, I opened the mastoid as it appeared to me too extensive a process to be limited to the middle ear alone. He had complained of no pain over the mastoid, there was no swelling nor tenderness there, but I chose that place of entrance as I was sure I would not have room enough to completely remove, through the canal, all the bone I had found necrosed.

I found the bone apparently solid, but slightly darker than usual. There was no sinus at any place. At the first stroke of the mallet on the chisel I penetrated the cortex and was within the mastoid, which I found to be one large cell filled with a most foul-smelling mass of granulations and some pus. This mass I cleaned out thoroughly with the curette. With chisel and curette I removed all the necrosed bone and opened a way into the antrum, and established very good drainage from the canal and middle ear. The wound was a large one and I had to lay bare the lateral sinus and remove nearly all the posterior bony wall of the canal on account of extensive necrosis. In doing this latter the facial nerve was damaged, and a partial facial paralysis followed, which improved later.

The child recovered slowly and the wound progressed, except for a slight hemorrhage the night after the operation. The dressing was removed on the fourth day. The wound looked fairly well and kept so for a few days, when the boy began to suffer extreme pains at night in his ear, not behind it.

The temperature varied from 98.2° to 99° the day after the operation and then fell to 98.8°, and remained about there till December 2, when it rose to 101°. At this time he had severe pain, followed by swelling of the parotid gland, which was not allayed by any local application. The gland was soft and boggy and I decided to incise it and clean it out. The facial paralysis had improved quite a little until the trouble began in the gland, when the paralysis became worse, due to the enlarged parotid. When I incised the skin over the gland there burst forth a gelatinous mass, some small globules, about the size of a pea, which were free, and the larger part of the mass attached to the capsule of the gland.

I passed a probe backward toward the ear, directly inward toward the median line of the head, downward, and forward, and found necrosed bone and a seemingly homogeneous semi-solid mass in every direction. I curetted the mastoid wound, which had been doing indifferently for the week preceding, and saved some specimens of the gland substance and the mastoid scrapings for pathological examination. On examination of these specimens there was found a small, round-cell sarcomatous formation with a number of giant-cells.

From this date, December 2, 1898, till the death of the patient, January 19, 1899, the growth continually increased in size and became more vascular and malodorous.

The picture was taken about three weeks before he died.

From December 12th the glands in neck began to enlarge and then there followed difficulty in swallowing and in talking, due to the growth of the mass inward. The left tonsil was pushed beyond the median line of the throat and the soft palate was pushed down from above and inward.

About January 10th the mass seemed to stop growing internally and increased in size externally .

EPITHELIOMA OF THE AURICLE: PATIENT, HISTORY AND ILLUSTRATION.

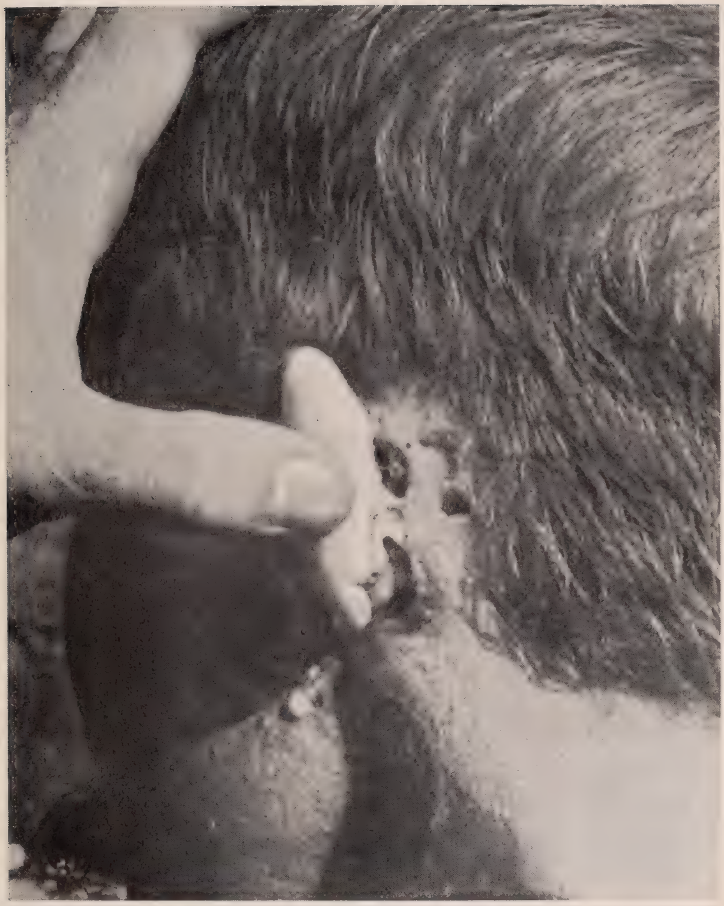
Henry A. Alderton, M.D.

Excluding fibroma of the auricle, epithelioma occurs more frequently in this region than any other neoplasm. It is the most common malignant growth of the auricle, and is the only one that occurs here primarily. In the majority of cases it originates in the upper half of the auricle. It is unusual to find it in a patient not past middle life, though such cases have been observed, as in the patient that I shall have the pleasure of presenting to you this evening. Its development has been attributed to the existence of a long-continued otorrhea, to blows, to mechanical irritation (such as scratching, picking, etc.) and to frost-bite.

Under the guise of a flat, hard papule or tubercle, or as a diffuse, uneven, irregular growth, or as a subcutaneous nodule involving the skin, it first makes its appearance. Fissures, or erosions due to scratching or picking, then present and develop into ulcers with an uneven, more or less granular base and with hard, irregular, elevated, waxy edges. These ulcers are sometimes covered with yellowish scabs, from under which or from the free surfaces escapes a bloody, purulent discharge having a peculiar odor, not very offensive. On the surface of the ulcer or around the edge may be detected the so-called pearl-rolls or bodies, which if seated on the surface may be easily expressed. These cancroidal bodies consist of variously shaped epithelioid cells in the form of waxy, glistening or pale-red, hard tubercles. The ulcerated surfaces are more or less sensitive and bleed easily. At times there is a marked formation of granulation tissue.

Originating primarily in the meatus, epithelioma may at first very much resemble a moist eczema.

The rate of growth in the beginning is very slow and only after it has involved the deeper parts is the progress very rapid.



EPITHELIOMA OF THE AURICLE.

Presented by Henry A. Alderton, M.D.

Sooner or later induration, ulceration and contraction appear. From ten to twenty years may elapse before the stage of rapid development is reached. Epitheliomata arising from nodular, more deeply seated tumors, which may reach down to the subcutaneous tissues, break down earlier, and also spread into the peripheral region more quickly; may, however, cicatrize in the center, so that surrounding a shiny vascular scar-tissue are seen fresh epithelial formations. The lymphatics of the region are seldom implicated until late in the course of the disease.

As the process extends, with more and more disturbance of nutrition, the tissues undergo necrosis and slough. In such fashion the growth may successively destroy the cartilage of the auricle and canal, the middle and internal ear, the cranial bones and so gain access to the cranial cavity itself. Metastases develop in the later stages in the lymph glands and the parotid, the angle of the lower jaw and in the anterior edge of the sterno-cleido-mastoid muscle. This is all attended with more or less inflammatory reaction, but, strange to say, with very little disturbance of the general organism or systemic infection. A fatal result is brought about by encroachment on the brain, or the formation of metastases in vital organs or from septicemia.

As a rule, there is very little or no pain in the early stages, and pain only becomes marked with the involvement and destruction of the deeper parts.

The principal difficulty in making a differential diagnosis arises in the case of lupus, especially in the pre-ulcerative stage. The microscopical findings when positive settle the question, but this does not hold when the findings are negative. Lupus usually appears earlier in life, commonly between the ages of ten and twenty years. Lupus is more frequent in females. In lupus the nodules project above the level of the skin only after they have persisted for some time and they involve all the cutaneous parts. Ulceration occurs less frequently in lupus, and only on account of special causes (spread of inflammation, secondary infection). The crusts of lupus are dark colored. The surface of the ulcer in lupus is on a level with the skin; is red, moist and resembles a granulating wound.

The treatment is essentially surgical and only when the knife cannot be used should other methods be employed, as a last resource. The incision should be made half an inch or more beyond the limits of infiltration, in perfectly healthy tissue, and lymphatic involvement searched for and excised at the same time. The underlying cartilage of the auricle should be heroically sacrificed. If the cartilaginous meatus is involved, the entire auricle and meatus should be shelled out and removed. If the growth has extended to the parotid gland, the knife is of doubtful utility, though it may be used in vigorous patients, the patient being cautioned as to the possibility of a post-operative facial palsy.

If complete extirpation is impossible then it is better not to operate, since this would only entail increased rapidity in the growth of the neoplasm.

A recurrent growth, small and isolated, justifies a second operation; but a rapid recurrence in the form of a diffuse infiltration is beyond surgical relief.

In those cases in which the cartilaginous meatus has been excised, much difficulty is experienced in the attempt to keep the canal patent and this attempt often fails. It should, however, be tried by means of tubes, metallic or rubber, kept constantly in place, but removed frequently for cleansing and for the destruction of superfluous granulations. Skin-grafting may also be tried.

Curettage and the actual cautery have been used satisfactorily in some cases. Escharotics have only an injurious effect.

In the inoperable cases, keep the ulcerated parts clean and treat symptoms.

The prognosis is unusually favorable when the growth can be thoroughly removed, as there is slight tendency to recurrence in this region after a satisfactory operation. It is only in advanced cases that a fairly favorable prognosis is unwarrantable. Those cases are most unfavorable which show lymphatic infiltration, or extension to the meatus and drum.

But some cases have a rapid return, either in the cicatrix or in the meatus, which is usually fatal in a few months from involvement of the deeper ear and brain or of the parotid region.

Literature: The writer is indebted especially to Jacobson, Mracek, J. Orne Green, Burnett and Gruber.

Case.—Peter S., age 36 years, No. 52,190 at the Brooklyn Eye and Ear Hospital. A small pimple appeared five years ago over the tip of the left mastoid process. He indulged in scratching and the pimple became an ulcer and gradually enlarged and destroyed considerable soft tissue in the post-auricular fissure. From thence the diseased area spread so as to involve the entire region over the mastoid to a distance of one inch or more posterior to the auricle. The lobule is eaten away up to the tragus. The growth has also extended below and anterior to the auricle for from one-half to three-quarters of an inch. There is much infiltration around and in the insertion of the sterno-cleido-mastoid muscle to the mastoid. Anteriorly to the auricle there is considerable scar tissue, around the border of which are the characteristic nodules, developing and breaking down. The tissue over mastoid is honeycombed, considerable tissue having been lost. The meatus is involved to a slight extent. Drum membrane normal.

I brought with me to show for comparison another photograph showing the same disease in a man much older, as somewhat of a typical case, that has the more usual situation in the upper part of the auricle; it shows the site of origin; and the photograph of this patient shows very well the amount of destruction that has taken place. It does not show the ulcer, but it shows the large tubercle, anterior and inferior to it, which at the present time has broken down and is now an ulcer, so it gives you an opportunity to observe the progression from the tubercle to the ulcer.

DISCUSSION.

James E. Sheppard: I am glad to have seen this case. I would like for our information to know what treatment has been carried ou to remove the infiltration, as the doctor says. It is apparently in pretty good condition for the length of time it has existed. I have seen a few of these cases, and it has been my experience that early in the history of them they are looked upon as such trivial things by the patient that you cannot get at them surgically, and I am not prepared to go the length Dr. Alderton does in striking out of our list the escharotics. I have certainly seen them used to advantage, especially the particular one I have used, used on the recommendation of Robinson of New York, who has done a good deal in that line—arsenious acid and gum tragacanth—the so-called Marsden's paste, and if applied thoroughly in the way Robinson recommends I have certainly seen some good results from it; I cannot say they have been permanent, because we have not lived to the end of the patient's life yet, but two patients I have in mind seem to have been relieved for as much as two years without any recurrence or any further breaking down of any kind; so I would feel like retaining this one at least of the escharotics in our list for the treatment of these cases.

James McF. Winfield: Regarding the use of escharotics in this case of epithelioma which Dr. Alderton shows, I think that the method of Robinson can do a great deal of good, because many of these cases are inoperable, and you have to cut so much when you do an operation that it is better first to try the Marsden paste, or any of these escharotic pastes.

Henry A. Alderton: Mr. Chairman, the question of escharotics has been a mooted point for quite a while. I have only had three cases, these two I have shown to-night and one other; the one shown in the smaller photograph would not submit to treatment for any length of time; we attempted to treat him by escharotics, but he passed from observation. Another case I saw seemed to be a case of epithelioma, and appeared to get well so far as we could see; he, too, passed from under observation.

My experience having been so limited, I feel as though I must take the experience of those who have had a great deal more experience than I have, and of those two especially come to mind. One is Gruber, than whom probably no other man has done better work or had more extensive experience. Gruber is the man whose words I have practically repeated in relation to escharotics. While you can probably get good results with escharotics in a limited number of cases, as a rule it seems to me you are wasting valuable time. You would better do a radical operation while yet there is time and not wait for any chance of the disease to get ahead of you. Bauer, speaking generally of epithelioma, not local, strongly recommends operation. That was the reason why I spoke as I did with reference to escharotics, and my recommendation of the knife.

RESECTION OF CECUM AND PORTION OF ASCENDING COLON FOR CARCINOMA OF THE CECUM. SPECIMEN AND REPORT OF CONDITION OF PATIENT TWO AND ONE-HALF YEARS AFTER OPERATION.

George Ryerson Fowler, M.D.

This specimen was taken from a man 34 years old two years ago in May. He came to the Methodist Episcopal Hospital on the 28th of May, 1897, with a history extending over two years. Two years before admission he had a sudden attack of abdominal cramps which lasted for a day or two and then subsided; at that time he had a point of tenderness in the right iliac region just at McBurney's point. The acute pain subsided, but was followed by a dull, aching pain which never left him for the two years preceding operation; he had no vomiting and no constipation; he had occasional attacks of more acute pain during these two years, but never severe enough to incapacitate him for his work. He was a salesman.

At the time of admission to the hospital he presented the symptoms and signs that he had had for the two years—this dull, aching pain and tenderness in the right iliac region. He was operated on and the growth was found to involve the cecum. The cecum, a portion of the ileum, and a portion of the ascending colon were resected, the ileum being implanted into the side of the colon and the end of the colon being sutured. A small iodoform gauze drain was used. After three days this drain was removed and the wound healed kindly; at the end of five weeks the patient was discharged, perfectly well.

Now, at the end of two years and a half he has remained perfectly well and is a vigorous, healthy man.

The specimen shows the tumor mass involving the cecum. Sections were made of this growth and pronounced by the pathologist, W. N. Belcher, to be a typical adenocarcinoma, and I have one section here under the microscope.

LITTRÉ'S HERNIA: PAPER AND SPECIMEN.

Arthur H. Bogart, M.D

The specimen which I present was removed from a patient admitted to the service of Dr. J. B. Bogart, at the King's County Hospital, in August.

History: A man, forty years of age, had always enjoyed good health up to six days before admission to the hospital; when, while moving, he was suddenly seized with a sharp pain in his right inguinal region, followed in a short time by nausea and vomiting. He remained up and about and had nothing done for him until the day before he came to the hospital, when he noticed a small swelling in his right side at the seat of the pain. He then made application for admission.

I saw him on the following day. He then had a pulse of 110 and a temperature 101.5°. He was not then feeling badly, his nausea and vomiting having ceased during the previous twenty-four hours. Bowels had not moved since the onset of the symptoms.

Examination showed the abdomen to be perfectly flat, no distention or tenderness in any locality suggestive of peritonitis. In the right inguinal region there was found a mass two inches in diameter, extremely hard and nodular, and quite tender, feeling more like a mass of swollen glands than anything else.

I made a provisional diagnosis of strangulated omental hernia and, because of the inflammatory condition present, made no attempt at reduction, but suggested an operation, which the patient declined, on the ground that he was felling better and hoped to get well without it.

On the following morning patient's condition had changed markedly for the worse, and although his bowels had moved freely as the result of an enema administered the evening before, the nausea and vomiting had returned as well as some abdominal tenderness and distention. His pulse was now 120 and temperature 102°. His facial expression was that of one suffering from some severe abdominal lesion.

The patient now requested that something be done for his relief. He was, therefore, prepared for an operation and anesthetized. Upon carrying my incision through the tissues overlying the mass above described, there escaped a quantity of pus and necrotic tissue which was found to have originated in a hernial sac which had become strangulated; during my manipulations there escaped also through the abdominal ring a quantity of fluid feces. Upon enlarging the opening and introducing my finger into the abdominal cavity, this piece of intestine was brought up, showing a circular opening in the side of the gut, about the size of a twenty-five cent piece. It was, therefore, evident that this knuckle of intestine had been caught in the internal ring and grasped so tightly as to cause it to slough off, thus allowing the intestine to drop back into the peritoneal cavity.

Owing to the fact that the patient's condition was not such as would justify attempting so prolonged an operation as a resection of the diseased intestine, I was forced to content myself with enlarging the opening, sponging out the cavity, and providing for drainage. The opening in the bowel was sutured into the wound, thus establishing an artificial anus at that point.

It is hardly necessary to say that the patient died during the next forty-eight hours of septic peritonitis.

The specimen shows very nicely the opening above referred to, also the dilatation above the point of obstruction and collapsed condition below that point. There is also a small nodule of some kind situated on the mucous membrane, which may have had something to do with producing the hernia.

The case then was one of Littré's Hernia, and differed from the usual only in that it was inguinal, while most hernias of this variety are femoral. The absence of any previous history of hernia is usual in such cases.

ANEURISM OF THE AORTA: SPECIMEN AND REPORT OF AUTOPSY.

William A. Payne, M.D.

This is an aneurism from a patient that came to autopsy this afternoon at the Kings County Hospital. A man 61 year of age; the history was practically nil, but we can gain these facts. Three or four years ago he was in the hospital, in the nervous ward; did not know what the trouble was, but said he had pain all over the body; that is all he could describe. At that time he was discharged, and then came back again about two years ago, and at the hospital they found nothing the matter with him and sent him to the almshouse. About six weeks ago he noticed a tumor in the mid-dorsal region, but complained of nothing at all. On Saturday last he was noticed by an attendant walking around through the grounds and was put to bed by this attendant. At that time he protested and said he was perfectly well. He said, however, that he had pain all over and felt sore; he never suffered from any dysphagia or dyspnea. On Saturday he was put to bed and on Monday night he died. Just before his death he was up talking to an attendant in the ward, and he suddenly fell back dead. What was the cause of death I do not know; the dissection was difficult, and whether it was induced by rupture of the aneurism into the spinal column I cannot say.

The aneurism occurs at the sixth dorsal vertebra; instead of going on one side of the spinal column it has spread out and gone on both sides, spreading into two sacs almost completely surrounding the spinal column and so great was the pressure upon the vertebræ that it resulted in fracture; whether that fracture occurred ante-mortem or post-mortem I cannot say, because we had great trouble in getting this out. It will be noticed that the aneurism of the left side has gone entirely through the ribs, fifth, sixth and seventh, and appeared on the back just between the scapula and the vertebral column as a tumor the size of a huge orange or even larger. I have opened the spinal canal and in that you will find the spinal cord and considerable blood in the spinal canal surrounding the cord, but whether that had leaked down from the thorax I cannot say, but there is this large hole through to the canal. Another very curious thing is that although the vertebra was nearly eaten in two the spinal cord was not involved at all.

DISCUSSION.

James P. Warbasse: It would seem that the inflammation of the cord in this disease must have been the cause of the man's symptoms previous to death, the peculiar nervous symptoms. The only death-producing symptom to which the doctor has called our attention has been the rupture of this aneurism into the vertebral column and it is very possible, and indeed the most probable explanation, that the gradual thinning of the aneurismal sac in the direction of the vertebral column has been preceded by a chronic inflammatory process and deposit of inflammatory cells in and about the cord, with possibly the development of some exudate, and that finally, when the sac had become so thin that it was incapable of withstanding the blood tension, a rupture occurred from the pressure on the cord, and the immediate death of the man resulted. This rupture we observe is high up, opposite the sixth vertebra, and with the effusion of blood extending above this we would have abundant signs to account for the sudden death of this patient.

H. Beeckman Delatour: Mr. President, I wish to say a word, not particularly in reference to the specimen, which is a very interesting and beautiful one, but with reference to the symptoms presented early, the symptoms of general pain throughout the body; whether or not the aneurism was discovered at that time it is not stated, but it not infrequently happens that we have patients presented to us who complain of vague pains in different parts of the body, radiating first in one way and then another and more or less constant, and still on very careful examination we are unable to find a cause for them. I have at present in my service at St. John's Hospital a man who presented these vague symptoms of pain and was extremely reduced in flesh and strength, and still for a long time no cause for it could be found. The man gave you the impression of a neurotic, not necessarily a malingerer, but still his general character was one that led you to believe he was exaggerating everything. Now it is fairly clear that he has a malignant growth involving the sacrum and involving the filaments of the cord, because there is beginning to be some bulging there, and some disturbance of the bladder is developing apparently as a result of pressure on the nerves. These two cases I think warn us to be very careful in our prognosis when we have such cases.

I was interested to know whether there were any disturbances of the reflexes to be noticed before death; affection of the knee-joints or any other points in the body below the site of the lesion.

William A. Payne: The symptoms in this case appear to have been almost nil, as I said before, and no results of pressure could be made out anywhere. I saw him first on Monday and he died Monday night and when I asked him, as he was lying in bed, how he felt, he said he was feeling very well and would like to get up; at that time I saw this tumor in the back and I could get a very distinct pulsation and felt sure by the feeling alone that the swelling was undoubtedly due to an aneurism; at the same time that man presented no symptoms whatever, and this, in connection with the case I presented at the last meeting in which there was an aneurism involving the entire aorta, seems to prove that occasionally there are hardly any symptoms accompanying even the largest tumors.

DIPLOCOCCUS INTRACELLULARIS MENINGITIS: PAPER AND DEMONSTRATION.

Jerome B. Thomas, M.D.

I intended to present this diplococcus on the slide, but through the courtesy of my colleagues, Dr. Wilson and Mr. Randolph, I received these very good photo-micrographs of the germs taken from the slide I made, stained with methylene blue, and these show very beautifully the dim outline of the pus-cell and the diplococci around in various parts of it and the nuclei in black masses. You will at once see the close resemblance of the germs to the gonococcus, both in shape and in the manner in which it lodges in the pus-cell.

This material was obtained from lumbar puncture fluid. I saw the case with Dr. Fuhs; a little girl suffering from pressure symptoms and meningitis. I made a smear in the ordinary manner and stained with methylene blue. The behavior of the diplococcus and its reaction to the stain is as follows: At the same time that I made the smear I made cultures and obtained pure cultures of the bacillus; in fact there was no other germ present in the fluid from the lumbar puncture, and I was able to study it for a few days until the culture died out.

Weichselbaum described the diplococcus intracellularis meningitidis in six cases of epidemic cerebrospinal meningitis in 1887. The germ was not heard of again till '95, when Jäger, of Stuttgart, described twelve cases agreeing with those of Weichselbaum except that a few encapsulated forms were observed.

By far the most complete study of the organism is that made by Councilman, Mallory and Wright in the Boston epidemic of '96-'97, including 111 cases observed in three hospitals and issued as a report of the Massachusetts State Board of Health. Of these 111 cases seventy-six died and thirty-five recovered, giving a mortality of 68 per cent. During various epidemics in Massachusetts, extending over nearly a century, the mortality has varied from 20 to 75 per cent. The disease rarely occurs in persons over 35 years of age. The onset is acute. Reports of the contagion vary, but it is quite certain that sporadic cases often occur in communities which may light up an epidemic if favorable circumstances occur.

The biological characteristics of the diplococcus are exemplified by the germs the photographs of which I present to you to-night. The following is a brief résumé of the points which established their identity: On staining lumbar puncture fluid with methylene blue, large, biscuit-shaped diplococci were observed occupying the leucocytes and in appearance identical with the gonococcus. A few were seen outside of the leucocytes, some in groups of four and some apparently encapsulated. Treated by Gram's method they lost their stain. Pure cultures were obtained in a few hours by smearing the fluid freely on the surface of Loeffler's blood medium and incubating at 35 C. A less luxuriant growth was obtained in the same way on glycerine-agar, but it was noted that this growth took the stain less clearly than the Loeffler medium growth. The germ failed to grow on gelatin or in punctures. After being transplanted a few times it failed altogether to grow. A rabbit inoculated in the peritoneal cavity with ¼ c.c. of lumbar-puncture fluid remained in apparently good health for 22 days, when it died suddenly. A post-mortem examination did not reveal any exudate, nor indeed any other sign of peritoneal or meningeal inflammation. The cause of death was found in the stomach loaded with sawdust, which the animal had eaten from the bottom of the cage. It is only just to state that this was a case of perverted taste and not of a lack of proper food. In this connection Councilman states that the germ is feebly pathogenic for rabbits and guinea pigs. The only animal experiment in which he induced a typical meningitis by inoculation with the diplococcus was in the case of a goat, the avenue of infection being the spinal canal. Death followed within the remarkably short period of 12 hours, and considerable purulent infiltration, both in the spinal cord and brain was found post-mortem. The Massachusetts report further states that in the cases examined after death the inflammatory process was found to extend into the cortex and even the ventricles of the brain, where the diplococci were occasionally found. There was a tendency to spread along the nerve trunks especially the optic, auditory and fifth nerve. In a few cases the germ invaded the lungs or joints, setting up a specific pneumonia or arthritis, but it was found to have caused a general septicemia. Such a case, however, occurring in Dr. Osler's wards in the Johns Hopkins Hospital, was recently reported in the *Philadelphia Medical Journal*, pure cultures being obtained from the blood.

In the 111 cases included in the Massachusetts report 55 received lumbar puncture, some of them several times. In the fluid removed in this way the diplococcus was found in 38 cases by culture or smear. It was difficult to find in many cases, especially after the passing of the acute stage, but toward the end of the epidemic there were no negative results if the puncture was made early and a considerable amount of fluid smeared on the culture medium. The proper amount of fluid for diagnostic purposes was found to be 5 to 10 c.c. received in a sterile test tube.

At the end of their consideration of lumbar puncture the writers make these most interesting observations: "Too much cannot be said of the importance of the procedure in making the diagnosis of the disease. There should always be a microscopical and bacteriological examination of the fluid obtained in order to determine what organism is present. Acute meningitis may be due to a variety of organisms and it is important to know which is present, for this has an influence in making the prognosis and in the future it may be of importance in influencing treatment."

The case that I have brought to your attention this evening is of interest in that the spinal fluid contained the diplococcus intracellularis meningitidis which Councilman and his colleagues declare to be diagnostic of the epidemic form of meningitis. Accepting this fact, the case affords proof that sporadic forms of the disease exist in our midst, for there is no epidemic of meningitis in Brooklyn, and this is the only case in a family of several children.

DISCUSSION.

William H. Haynes: As I understand it, it seems to me that the consensus of opinion about this matter is that the bacillus of Weichselbaum is the cause of the epidemic cerebrospinal meningitis, but the isolated cases of cerebrospinal meningitis are not due to that bacillus, but due to secondary bacilli such as the staphylococcus and streptococcus, and it seems to me that if these reports of Councilman and Wright and also of Jäger are correct it proves this fact, that in the form of cerebrospinal meningitis known as the epidemic form we have the bacilli of Weichselbaum as the causing bacillus, but in the isolated cases it is not found, and that those cases are due to a secondary infection from the pneumococcus and the tubercle bacilli and the other bacilli. It seems to me that is a point which was lately brought out and clearly demonstrated by the force of these two epidemics, and it confirms our clinical experience. We have all seen secondary cerebrospinal meningitis, secondary to pneumonic infection and also tubercular infection. So unless this was a case which occurred in an epidemic, which I do not know to be happening in Brooklyn at this time, it seems to me it does not agree with the present understanding of the matter as it now stands.

From the discussion it would appear, therefore, and from the latest literature, that the consensus of opinion is that the Weichselbaum bacillus is the cause of the epidemic form.

Jerome B. Thomas: The streptococci were found in the brain. The patient was trephined some days after the puncture and some pus removed from the meninges. The child died some few days after that.

That is generally accepted, as far as I have found out, that it is the cause of the epidemic form. However, in this report Councilman speaks of cases often being found which seemed to be sporadic but that will develop under favorable circumstances—will develop an epidemic in that neighborhood. What I read last would show he believes very thoroughly, from the examinations he made of those cases, that the diplococcus of Weichselbaum is pathogenic of the infectious form, but he states the degree of contagiousness is a matter of debate and that no doubt these cases do occur and go no further in the same family, but he believes under favorable conditions they start epidemics.

(*To be continued.*)

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 3.
WHOLE No. 147.

BROOKLYN, N. Y., MARCH, 1900.

Single copies 25 cents.
$2 a year, in advance.

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

DIFFUSE INFECTIVE PERITONITIS—OBSERVATIONS AND DEDUCTIONS.

BY CHARLES H. GOODRICH, M.D.

Assistant Surgeon, Norwegian Hospital; Assistant Surgeon, Out-Patient Department of Methodist Hospital; Attending Physician, Home for Destitute Children.

Read before the Brooklyn Surgical Society.

Persistently fatal as are the majority of cases of suppurative and septic peritonitis, there is reason for great encouragement in the current reports in literature, and, as one considers the pathologic sequence usual in this class of cases, it seems as though we must always find deductions of value resulting from a practical analysis of cases observed, however commonly they occur. Thus the cases coming under the writer's observation, whose histories are accessible, have been chosen as the basis of this paper. They exhibit a variety of causes, demonstrate the preponderance of one cause over all others, record many methods of treatment, point out errors of delay and diagnosis, and show many courses and outcomes.

At the outset it is only fair to indicate our pathologic classification of the disease, otherwise some terms may be misunderstood. All of the cases here considered are included under one of three captions:

1. Acute septic peritonitis, that "most fatal of all forms of peritonitis, where the micro-organisms multiply so rapidly and their toxic products are taken up so quickly by the blood and lymph-vessels that the patient is overwhelmed in a very short time and dies as though suffering severe shock" (Kelly). These are the cases where "the local reaction is slight and there may be but little evidence of peritonitis, the symptoms being almost entirely constitutional." (*Ibid.*) In these cases the exudate is scanty, being either like deeply stained blood serum or thin slime, but possessed of myriads of micrococci, usually (if not always) streptococci. Cases of this kind are usually post-operative.

2. Suppurative peritonitis, covering those cases where as a result of primary infection by accidental or operative trauma or as caused by the bursting into the general cavity of the peritoneum of a quantity of pus heretofore loçalized as an abscess within a viscus or walled-off in a limited space by protective adhesions—in other words, localized peritoneal inflammations of suppurative type, or as resulting from the evacuation of some of the contents of hollow viscera possessed of infectious contents.

3. Fibrinoplastic peritonitis, where the suppurative process is accompanied by the formation or the tendency to form adhesions, sometimes protective, but often so distributed as to fail in this capacity.

So much for a classification, simple but as complete for this class of cases as our positive information will permit.

Before turning to the consideration of our cases, a brief glance should be taken at the varied circumstances which may modify or determine, alone or in simple or complex combination, the effects of pyogenic bacteria in peritoneal inflammations.

1. *The source* of infection has much to do with activity of the inflammation.

2. *The number* of bacteria introduced may alone determine the outcome of the case, whether succeeding trauma or the rupturing of an abscess or of hollow viscus.

3. *The virulence* of the particular germs in contact with the peritoneum may likewise menace the patient greatly or lightly, different germs varying by nature in destructive power. Also may exceedingly virulent bacteria possess attenuated abilities

from long imprisonment, unfavorable food, or association with antagonistic fellows.

4. Again, the particular *ptomaines* produced in given cases may vary in amount and toxicity.

5. The part of the abdomen invaded prejudices the welfare of the patient to an extent. Given a trauma or a secondary pus infection where the intestinal coils are in motion constantly, or where the gastric movements during digestion are more or less constant, and the danger of a rapidly fatal result is much greater than where all is more quiet, as in the pelvis.

6. The general health of the patient when the inflammation ensues throws the balance to one side or the other in some cases. Rarely do alcoholics, with diffuse peritonitis, recover, nor yet anemic, depleted women.

7. The presence of a quantity of good culture medium in the shape of effused blood or exuded serum may determine the ascendancy of the bacteria.

8. In post-operative cases, blame may be attached to the excessive handling of peritoneal surfaces—often necessary, however.

Turning to the illustrative cases we will consider them in groups.

Group I.—Caused by Pancreatitis.

Under this heading we present two cases, one exceedingly acute and destructive, the other subacute and capable of reaction and recovery.

The first case came under observation forty-eight hours after the initial seizure, which was accompanied by severe right-sided abdominal pain, nausea, vomiting, constipation, fever, and exaggerated prostration. When first seen by us, the temperature was but 99.4° F., yet the pulse was 140 and thready, the lips were blue, the fingers blue, and the countenance ashy. The abdomen gave every classical sign of diffuse peritonitis. Immediate operation demonstrated a large pancreas containing a ruptured suppurating focus, considerable pus in the upper part of the general peritoneal cavity, and intense hyperemia of all of the intestinal coils. The treatment consisted in free washing out of the abdominal cavity with normal saline solution and free drainage with two rubber tubes and several strips of gauze. Death ensued forty-eight hours later. The autopsy revealed a long-standing interstitial pancreatitis with a localized suppurating focus near the head of the viscus. So, here we notice the acute inflammation, the comparatively small abscess, the rapid septicemia, and despite the fulfilling of surgical indications, rapid progress of the lesion and death. This man was a moderate drinker of alcoholics. Upon which of our introductory points can we hang the blame of his death? Here was a source of infection, the position of which was most unfortunate. The virulence of the germs must have been excessive, the toxicity of the *ptomaines* extreme. Again, the part of the abdomen invaded by the emancipated pus was favorable to the spread of infection by gastric and intestinal friction in motion. Moreover the patient's habits may have lowered his power to resist sepsis.

The second case gave history of long-standing "indigestion." She had been sick one week when coming under the writer's observation. The original onset was sudden with sharp cutting pain, followed by a dull pain continuing and increasing, all located in lower epigastric umbilical regions. Aside from the ordinary signs of moderately severe sepsis, the chief revelation of the examination was the existence of a hard, tender tumor as large as a fetal head (at seven months), situated in the area of pain, its center a little to the left of the median line. She was removed to the hospital and abdominal section performed. Here adhesions had formed in nearly all directions, and although a large area of the peritoneum was involved, thorough drainage after dry sponging completed the cure. Here the contents of the original abscess had not been so virulent, the patient was in good general condition, and *ptomaine* poisoning was far less marked than in the previous case, although the sickness had lasted more than thrice as long. Here also the patient was favored by an exceedingly limited handling of intraperitoneal tissues.

A feature common to these cases was constipation, an interesting point, because in searching the literature for similar ones the records of nearly every case show a diarrheic condition.

Another fact noted in reading accounts of these cases is that the diagnosis was rarely made. May it not be wise to watch the pancreas as closely as we do the spleen, or liver, or stomach, or appendix, for numerous accounts of its inflammation are recorded and the lesions are often very dangerous.

Group II.—Case caused by a Perforating Ulcer.

This man had suffered from digestive disturbances for many years. He came under observation twenty-four hours after the beginning of this attack. Signs and symptoms indicated a severe case of appendicitis, with advancing peritonitis. Abdominal section was performed one hour after his admission to the hospital.

A large, gangrenous, perforated appendix was exposed and removed. Diffuse suppurative peritonitis was found. Pus was sponged away, and right iliac region was drained with gauze. Constant improvement for four days followed, after which time there was a sudden onset of pain in epigastrium, followed by rapidly developing signs of peritonitis, and death on the sixth day after operation. The autopsy demonstrated a perforating ulcer of the transverse colon. In this case the patient was undoubtedly recovering from a well-nigh fatal peritonitis from one cause, when another and even graver etiological lesion supervened.

Group III.—Cases following Typhoid Fever.

A man entered the hospital one morning, complaining of a severe attack of abdominal pain having begun about one hour before. He said that he had felt sick and unable to work for over two weeks, but had persisted in laboring until the time of this attack. Examination revealed general abdominal tenderness, marked tympanites, and distinct rigidity of both recti. The bowels could not be induced to move in response to the severest enemata. Patient was retained by the medical division for thirty hours, when the diagnosis of perforating typhoid ulcer was determined, and he was transferred to the surgeons, who operated immediately. The intestinal coils were bathed in a mixture of pus and feces. A perforation eight decimeters in diameter was found in lower ileum. The entire ulcer was excised and the enteric wound sutured after Lembert's style. The general cavity was irrigated with hydrogen dioxid diluted with two volumes of sterile water. Several wicking drains were inserted. At first the patient reacted vigorously, but later declined as rapidly, and died thirteen hours after operation.

In this case it was generally agreed that the patient should have been subjected to operation at least twenty-four hours sooner, as, in view of the remarkable successes in just this class of cases, his chances were greatly lessened by the thirty hours of delay.

Perhaps it should be mentioned just here that reports of cases would indicate that the proportion of cures, after operations, in cases of peritonitis, due to ruptured typhoid ulcers, is much larger than in those which are caused by ruptured appendices or abscesses thereabout.

The second case of this group, a woman, suffered a typical course of mild typhoid fever, followed in the sixth week by the development of a retroperitoneal abscess, evidently due to suppurative lymphadenitis (mesenteric). This was treated by operation, free drainage being established. On the thirteenth day after operation she had a sudden onset of right iliac pain, accompanied by chill, then fever, and increasing pulse-rate. Twelve hours later she showed unmistakable signs of diffuse peritonitis. Immediate operation was done—a swollen and perforated appendix (which had been observed as normal at the previous operation) was removed, the peritoneal cavity was cleansed with saline solution and drained, but she died eight hours later, which case seemed to teach the inadvisability of leaving the appendix in situ when operating for any other inflammatory condition within the abdomen.

Group IV.—1 Case—Caused by Carcinoma of Colon.

The case of carcinoma of the descending colon is mentioned only to be accurate in reporting all cases. Obstruction suddenly became complete and operation was performed immediately. Lateral anastomosis was accomplished by means of a Murphy button. The intestines were so inflamed and distended and fragile that they ruptured in three locations during manipulations. She died after twelve hours.

Group V.—The only case of pyosalpingitis in this list had been sick two weeks when coming under observation. At this time her only complaints were of fever, constipation and severe pelvic pain. Both lateral fornices were occupied by large, tender, fluctuating masses. Operation showed that a small opening had permitted leakage from one abscess cavity, and there was a diffuse peritonitis. The appendages were removed, the pus was sponged away, saline irrigation was practised, and the abdomen was *closed without drainage.* An uninterrupted recovery followed. The reason for the salvation of this woman is in question. She was in poor general condition, and pus in some quantity was free in the general cavity of the peritoneum. It may have been:

1. Attenuated pyogenic power of bacteria.

2. The ease of reaction from infection when one is accustomed to it, which is a factor in these cases, according to some surgeons.

3. The (then) novel method of treatment.

Group VI.—Illustrative of the disadvantages of the presence in the peritoneal cavity of a good culture medium, a case of secondary hemorrhage is cited. At least one and a half pints of blood escaped from a punctured vessel in the cecal wall, wounded during an appendicectomy. The first symptoms of hemorrhage were noticed six hours after operation, so that it was supposed that at first an hematoma had formed between the layers of the cecal wall; in fact, evidences of this were found when the abdomen was reopened. The bleeding was stayed by a suture, the general cavity was cleared of clotted and fluid-blood as thoroughly as was possible in haste, and the wound closed. Saline infusions and free stimulation resuscitated the patient, and all went well until on the third day the symptoms of a violent diffuse peritonitis supervened. Death occurred two days later.

Undoubtedly *some* (though not much) blood was left in the peritoneal cavity at this time. Then, too, considerable manipulation was necessary, as the bleeding was at first thought to come from ligated stumps of uterine appendages, and it was not until these were found innocent that the cecum was sought, and the peculiar source of bleeding located.

Group VII.—One Case due to Intestinal Obstruction.

In one case we record a fatal peritonitis, consequent to an obstruction by an adhesive band. She had been operated upon for appendicitis one year previous to the attack of obstruction, and, at that time made a perfect recovery. On the day before admission to the hospital, she was seized with a sharp, cutting pain in the abdomen, which continued increasing until operation was performed. She vomited frequently, never raising stercoraceous matter. Upon admission, all classical signs of diffuse peritonitis were present, with pulse 136, and respirations 40. The operation disclosed a band, causing the obstruction by entangling eight inches of gangrenous ileum, which was excised. At the time of operation, there existed an intense congestion of peritoneum in the general view. Operation was followed by increasing violence of symptoms of peritonitis, and death thirty-six hours later.

Group VIII.—Post-operative Peritonitis.

Of the cases here included two were clearly of post-operative peritonitis. One is our only example of the terribly rapid form of which Kelly (Baltimore) says: "The surgeon may hesitate between the diagnosis of hemorrhage, shock, and infection." Such was the appearance of this patient to an examiner, on the second day after a complete hysterectomy by the abdominal method, that hemorrhage was diagnosed. When the abdomen was reopened only a little mahogany-colored serum was found, and this in the pelvis. This was sponged away with bichlorid sponges, and wicking drains inserted, but death occurred three hours later, only five hours after the initial signs of trouble. It was this case that impressed upon me most forcibly the lesson that a severe infection could be accompanied by a falling temperature, remaining persistently low, and yet with a rapidly rising pulse and respiratory record and all of the other concomitant signals of impending death.

The other case showed the first signs of peritonitis three days after the removal of a tubal abscess and the enucleation of a subperitoneal fibroma of uterus. The first symptom was vomiting, the second, pelvic pain; tenderness, rigidity, and tympanites, following apace, and increasing gradually. Intestinal paresis developed late. Death occurred six days after operation.

The first of these cases was undoubtedly infected by hands, or instruments, or nails, or sponges. The second, possibly, by bacteria, which had made their way in small and impotent numbers through the wall of the tubal abscess and only waited for an encouraging trauma or some serum thrown out as culture-medium, to become fatal factors in the case.

Group IX.—Cases caused by Appendicitis (16).

It is interesting to note that from all other causes occurred twelve cases and that from appendicitis originated sixteen instances of diffuse infective peritonitis. Worthy of note is the fact that all of the cases here recorded possessed their diffuse peritonitis at the time of operation. In reviewing these collectively, it will be instructive first to mention how long they had been kept under the family physician's observation before being permitted to enter the hospital.

Two had been ill 36 hours; 1, 48 hours (recovered); 3, 3 days (one recovered); 4, 5 days (one recovered); 2, 6 days (one recovered); 1, 7 days; 1, 10 days (recovered); 2, 2 weeks.

Save for the three rapid cases these were all treated medically and held by the family physician until the signs of diffuse peritonitis developed. The hospital aid was sought when the surgeon could operate only in the face of greatest dangers, handicapped shamefully; when the family physician was sure there could be no salvation for the patient. I do not hesitate to record my belief, that save for the two rapidly fatal cases most of these could have been saved had the surgeon been called to cooperate at an earlier day.

Concerning *Symptomatology* there is nothing new to offer.

The diagnosis was beyond question in every case when coming under observation.

There was quite a rarity of lesions demonstrated in this series of cases.

A ruptured appendix lay in the peritoneal cavity, there being no attempted production of protective adhesions in six instances. One of these had sloughed off at the base and the organ was attached to intestine only by a fragment of meso-appendix. In another there was no perforation, but simply an extension of inflammation along the peritoneum, from that of the appendix to the intestinal serosa. In one case the appendicitis was accompanied by a very prolific growth of adhesions, one being firm and large enough to completely obstruct the fecal circulation. The adhesions were everywhere but in the right place, and did not present an extension of the inflammatory process from the peritoneal coat of the appendix to the neighboring coils of ileum and colon. This was one of the cases which recovered.

The diffuse peritonitis was due to the rupture of an abscess containing an inflamed, and, in some instances, perforated appendix in nine cases. Six abscess cavities contained gangrenous appendices. One appendix was not gangrenous, but was perforated. In two cases the appendix was not sought with great care, as these patients were moribund when admitted, and the only hope of resuscitation lay in freeing the pus from the peritoneal cavity.

The infective fluid varied greatly. In one case it was a mixture of serum and pus; in another fluid feces and thick pus; again the creamy yellowish-white pus, invariably with wretched odor. In some cases the flakes of the fibrin coated the intestinal coils. In nearly all could be viewed the terrific congestion of the peritoneum, like brighter mahoganies in color.

Having reported 32 per cent. of cures in this group of cases, it is fitting that we consider the methods of treatment..

1. *Treatment of cases recovered.*

Case I.—Large, ruptured abscess. Dry sponging, followed by free saline irrigation, the entire wound being occupied as an exit for gauze drains. This case included the largest collection of pus which I have seen in the abdominal cavity. Appendix was removed.

Case II.—Gangrenous appendix. Ruptured abscess. Appendix removed. Dry sponging. Wicking drains. Fecal fistula followed. This closed spontaneously.

Case III.—Ruptured abscess. Pelvis filled with pus. Appendix removed. Abscess cavity drained with wicking. Pelvis drained with large glass tube, dressed every two or three hours for several days after operation.

Case IV.—Wicking and gauze drains in all directions. No abscess.

Case V.—No abscess. Highly inflamed appendix. Diffuse peritoneal inflammation with pus and flakes of fibrin. Adhesions torn and ligated. Appendix removed. Abdomen sponged dry, then irrigated with saline solution. Abdominal wound closed without drainage.

Of the nine fatal cases one was treated with a glass drain, and the others with wicking or gauze drains. In some the abdomen was sponged dry, in others free saline irrigation was used.

The treatment of diffuse infective peritonitis has been more successful during the past five years than ever before. The most remarkable reports of cases come from surgeons of our country. Thus Finney (of Baltimore) reports five recoveries out of six, after the operation said to have been suggested by him. McCosh (of New York) cured seven of nine cases of their peritonitis by his particular method or combination of methods. There are many other less startling favorable reports in this direction.

There are so many varying conditions found in as many cases of this disease that the operator can only formulate his method of procedure when the inflamed peritoneum is exposed. So that here, as in few surgical conditions, rules are fallacious. Yet, when special therapy has answered certain special indications in actual cases, they should be borne in mind.

Finney's method accomplishes the thorough mopping of all of the intestinal coils with gauze sponges wet with saline solution. At the time of his report, his enthusiasm was unbounded, likewise Dr. Kelly's. Twice have I seen this procedure adopted, both cases dying promptly from the resulting shock. It seems reasonable to think of this treatment as proper only for the cases taken early and in fair condition.

McCosh (in 1897) felt that a great measure of his success in the series of cases reported, was due to the intra-intestinal injections of sulphate of magnesium, which caused surprisingly prompt expulsion of flatus, followed soon by copious fecal evacuations. Personally, I have observed no case treated in this manner.

The question of how to drain these cases has been freely discussed in the past, but all has not been said. It is undoubtedly true that in some cases where the diffuse inflammation is the sequel of a localized purulent process, the original focus must be drained, but with what means? Rubber drainage tubes threaten danger from the mechanical irritation. Twice certainly have I seen fecal fistulæ resulting from this scraping or boring action. The meshes of gauze soon become clogged with fibrin and cells, and capillary action ceases, transforming the so-called drain into a plug. Repeatedly have I seen pus imprisoned by the very material called upon to give it exit. The harmfulness of this action is many times multiplied in cases of diffuse peritonitis. Where a small localized focus is being drained, less danger is incurred, for the enclosed exudate cannot as rapidly cause serious toxemia. And yet gauze drains are sometimes of the greatest service.

Wicking drains seem to have assisted drainage for a longer period than the gauze, but also for a limited time, for when the various strands adhere to one another, obliterating spaces for current, the capillary action ceases here, too. Less frequently have I seen exudate held back by wicking.

A large glass tube through which passes a gauze or wicking drain which is changed every two or three hours, the cavity being cleared by aspiration during the dressing, has drained most satisfactorily in the cases observed.

Two cases of this series were treated by thorough irrigation followed by complete closure of the abdomen, and the placing of the foot of the patient's bed raised to an angle of about 45°, as compared with its usual position. These two cases recovered. One was a case of ruptured pyosalpingitis, the other of appendicitis, accompanied by intestinal obstruction. As you all know, Clark, of Baltimore, published in May, 1897, a truly novel article on drainage of the peritoneal cavity. In this paper he announced the general proposition that in most abdominal cases drainage was not only useless but harmful, proving it to the satisfaction of many of his contemporaries. In the latter part of his essay he cited a number of instances in which drainage *was proper and desirable*. Among these occurred diffuse purulent peritonitis, in which large drains with counter-openings in the flanks were recommended. Yet, these two cases of our series would indicate that Dr. Clark's recommendations to close the abdomen after celiotomy may reasonably include this class of cases, when no localized focus with necrotic tissue co-exists. I believe that Dr.

Delatour, the operator for these cases, can mention others successful after the same procedure.

To none of the cases was administered antistreptococcus serum. Some of my friends believe in its efficacy, whereas you all are familiar with many adverse opinions in the literature. Perhaps the most impressive of these is the report of the investigating committee of the American Gynecological Association upon the results (all over the world) from the use of the serum in cases of puerperal sepsis. We quote their decision regarding mortality, "which we must admit is not sufficiently low to encourage us to proceed further with its use."

Of the greatest importance is the consideration of the measures calculated to lessen the frequency of this destructive lesion. These may be divided into two classes:

1. Measures to prevent post-operative peritonitis.

2. What can be done to lessen the frequency of the disease in case of previously existing inflammation confined to certain viscera?

Under the first class, it is desirable only to suggest whatever seems important to us, although unheeded by one or more of the dozen surgeons whose intra-abdominal work it has been our fortune to witness.

1. Despite the existing tendency to reaction to the use of unmedicated sterilized water for cleansing hands and forearms, we are convinced that statistics will prove the efficacy of the stronger antiseptic solution in this capacity.

2. In some operating-rooms we have seen free handling of the gowns before and during operation. These may be contaminated frequently by contact with tables, chairs, blankets, etc., and, although perfectly sterile originally, may be a medium of infection if handled as is most frequently done for the purpose of clearing the hands of blood.

3. Great care should be exercised to prevent any blood from the abdominal wall from entering the peritoneal cavity. This may prevent an invasion by the bacteria which abide in the skin, notably the streptococcus epidermis albus.

4. Once within, the bites included in the hemostatic forceps should be as small as possible to insure a minimum of sloughing.

5. Ligatures should consist of the minimum amount of the finest catgut that is safely strong.

6. Manipulations, wherever possible, should be through the medium of instrument. The skin of the hands abrades the peri-

toneum quite roughly, and there should be as little manual contact with viscera as is compatible with intelligent procedure.

7. The walling off of the free cavity by gauze sponges, when a septic focus is suspected, is desirable, but serious trauma may be inflicted by too assiduous work in this direction.

8. Although small incisions are desirable, an opening large enough to permit the least possible manipulation in the dark is more desirable.

9. In the removal of pedunculated masses, pedicles are oftentimes left too long, and, as results, sloughing, adhesions and bands capable of imprisoning knuckles of the gut may occur.

10. Zweifel recommends that surgeons suspend all operations for three days after contact with a septic case.

The majority of our fatal cases could have been saved by timely intervention by the surgeon. This is true of many other recorded lists of cases of this character. Therefore, should the surgeon never cease to speak and write to his friends in the general practice of medicine, *insisting* and insisting that surgical judgment should be rendered *early* in every case of intra-abdominal inflammation of infective character, particularly in those cases in which the appendix or the gall-bladder is thought to be involved, or where the lesion is obscure.

In conclusion, to recapitulate briefly:

1. Here are presented reports of twenty-eight cases of diffuse infective peritonitis; seven recovered (twenty-five per cent.).

2. Three of these cases were moribund when admitted to the hospital.

3. The majority of these cases and a large proportion of all cases of diffuse peritonitis are due to previous disease of the appendix vermiformis.

4. The majority of fatalities were due to unwisely prolonged medical treatment.

5. Pancreatitis is too often overlooked.

6. The appendix should be removed whenever the abdomen is opened for an inflammatory condition.

7. It is a question whether artificial drainage of these cases is wise when no necrotic abscess-wall ("pyogenic membrane") exists.

8. There are many niceties of technique, which may be saving elements in any case. No measures for prevention of infection can be too extreme, despite the ridicule of those who are satisfied with the *ordinary* aseptic and antiseptic precautions.

9. However scientific the thorough mopping of the serous coat of the intestines may seem, the important element of shock must not be forgotten.

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DISCUSSION.

Dr. A. T. Bristow could not say that he was willing to call the method of Finney a scientific method. He thought that any method which involves scrubbing the peritoneum, and thereby denuding it of its protective epithelium, is the reverse of scientific. He never saw but one case so treated, and that case was with difficulty gotten off the table alive, and died within an hour or two, or, indeed, within a very short time. He had heard very little of the methods since Finney published it in the *Johns Hopkins Bulletin,* and he was led to suppose that the cases that Finney treated were cases of extraordinary resistance and a low order of infection.

As far as the question of drainage is concerned in these cases of general peritonitis, he personally believed it to be useless, and he thought the method of Clark would give us very much better results than either the methods of McCosh or Finney, both of which involve very extensive handling of the intestines. In fact, both these gentlemen practically take all the intestines out of the body, and scrub and put them back again. According to the speaker's experience with patients with septic peritonitis, the shock of such an operation alone would be sufficient to kill them aside from the septic process with which they are struggling.

As far as this question of drainage is concerned, we all know what happens when we tuck a gauze drainage tube or any irritating substance into the abdominal cavity—adhesions take place and within forty-eight hours there is a tunnel of adhesions in which lies the gauze. The spot which that gauze may drain will be limited to a circle of less than an inch in diameter. So, also, if drains are inserted on each side, as is sometimes done, similar tunnels will be formed about them, to limit the area drained; so that it is not possible to drain the whole peritoneal cavity. By such procedures we simply increase the irritation present by the presence of drains. The speaker firmly believed that drainage in general peritonitis is harmful and useless, and that the best treatment of such a condition is an incision and a free washing-out of the peritoneal cavity with gallons after gallons of salt solution at a temperature of 110° F., then closing the peritoneal cavity without any drainage whatever and putting the patient in Clarke's position, so as to get the advantage of the diaphragmatic lymphatics, which are able to take care of a great deal of infection. He had had a great many cases which he had treated after that method, and he was pleased to say that a number of them had recovered.

In reference to peritonitis in children, he said that it seemed to him that children bear a general septic peritonitis much better than adults. He had had a number of cases of appendicitis in children, in which there was certainly general septic peritonitis, and he had not lost one of them. One was a curious case of appendicitis apparently following injury. It illustrated the point he had in view with reference to the drainage of these cases. The boy came into the Long Island College Hospital with a history of a kick in the abdomen some days previous. He had a distended abdomen, evidently general peritonitis was present, and the speaker had expected to find a ruptured intestine. He opened the abdomen by Camerer's incision and found a gangrenous appendix which was free in the abdominal cavity, a general peritonitis, and the abdomen full of fluid and flocculi. He simply ligated the stump of the appendix, for the appendix had separated itself, took out the slough of the appendix, which was found floating about, washed out the patient's abdomen thoroughly with a hot saline solution, and sewed up without a drain. The subsequent temperature never rose to 100, and the patient made a prompt recovery.

Dr. M. Figueira could not agree with the previous speaker in saying that drainage is useless and should not be used in the peritoneal cavity after septic inflammation and peritonitis. It is well-known, he said, that in the treatment of abscesses and in the treatment of peritonitis, localized, following salpingitis and following appendicitis and following abscess around the liver, that in all these cases simply washing out is not sufficient to cleanse the suppurating cavity and to prevent further infection, and what is true of minor cases is true of major cases, of cases of septic peritonitis in which no amount of washing is going to reach all the corners of the peritoneum. The speaker said that it made no difference how many gallons were used; it is impossible to clean out all septic material and infective germs from the peritoneal cavity, and if that is a fact, then the germs and the inflammatory material that is left behind are going to start a new process when the peritoneum is closed, and when that process is started the peritoneal cavity must again be opened and again washed out. He had seen cases of perforating appendicitis in which the peritoneal cavity was full of pus, and in which, by a thorough washing and free drainage the patient has been saved. But in these cases the wound was left open and drained, not by strips of gauze, but large pieces of gauze around which no channels of adhesions formed. And then again these drains should not be left there until a channel is formed and lymph thrown around them so drainage cannot take place; they should be removed and replaced so as to keep constant drainage going on. In the treatment of abscesses, just as in the treatment of peritonitis following appendicitis, this closing of the wound cannot be done with safety. The suppurating surface may be scrubbed and rubbed, but if the cavity is closed pus will reaccumulate.

Dr. H. B. Delatour had given a great deal of attention to the question of drainage of the peritoneal cavity, and he expressed the opinion that we must divide the cases according to the conditions we find. If we find adhesions present with pus foci between them, he did not believe that it is possible to drain or wash those cases to the complete elimination of the poison, and to save the patient. He did not know that he had ever seen a case of general suppurative peritonitis with multiple adhesions recover, no matter whether it was treated with drainage or without drainage, or with sponging or without sponging. But if we are given a case of general suppurative peritonitis with a sero-purulent or nearly purulent discharge, distributed throughout the entire general cavity, the peritoneum may be thoroughly washed with a small quantity of fluid, preferably the normal saline solution, which certainly irritates the peritoneum to the least degree, the fluid sponged away, and the peritoneal cavity left dry, such a case will recover just as surely as if it were drained. It is not necessary to use gallons of fluid. The speaker was in accord with the proposition that Dr. Bristow has made, that our drainage is immediately walled off, that adhesions form promptly about the irritating mass of drainage material and it is but a few hours before the source of drainage is shut off and forms a simple canal. If, however, there is, instead of this, an abscess cavity, whether it be from appendicitis or whether it be from a pus tube, in which the walls of the abscess are not removed and have to be left in place, then he believed packing and drainage are of some use. If we pack the cavity and keep it distended and have a free exit for the gauze through the abdominal wound, we are making good use of our drainage, but it is not for the general peritoneal cavity that we use that packing—it is for the local abscess wall. Cases of ruptured pyosalpinx, as a rule, do not give a virulent and fatal form of peritonitis, except in those cases of acute and rapidly developing pyosalpinx such as follows a septic metritis or endometritis ensuing on retained secundines. In those cases the pus formation seems to be particularly active and virulent, the most virulent of all pus formations; but in old pyosalpingitis, such as we most frequently come in contact with, even if a large quantity of pus is evacuated from the abscess, it is perfectly safe to close the abdominal wound without drainage, and the great majority of cases will do well.

As to the after-treatment of these cases: the speaker had tried both Finney's and McCosh's treatment, and does not propose to try them any more. He regarded them as barbarous methods, and before the surgeon is through they make him wish that he had not attempted them. Every case which he had seen treated by the thorough washing of the intestine by almost complete evisceration of the entire mass or by evisceration of small portions of the intestine at a time, one after another, have nearly died of collapse on the table, and he, for one, would never attempt it again. His plan has been to introduce a good-sized rubber tube into the abdominal cavity, well in on either side, and let the fluid flow in through the tube in a good stream and have its exit through the wound. As to the after-care of these cases, the speaker had come to look upon the old-fashioned medical treatment of peritonitis as of some use, and it has been his practice to put these patients on opium or morphia in some form during the continuation of the pain or at the slightest indication of distention. Likewise in some cases he applied the ice-coil; but he did believe that opium has a distinct place in the after-treatment of these peritoneal cases, and it had been his good fortune, since adopting that line of treatment, to have saved a larger proportion of cases than he had either saved or seen saved before. Three of the cases reported by Dr. Goodrich were his, and besides he had had a number of similar cases. He had had three cases within the past month, cases such as would ordinarily have been drained and expected to have died, but he had closed them without drainage and they had recovered.

Dr. J. B. Bogart said that he could agree with Dr. Delatour, that he had never seen one of those cases in which there were several distinct collections of pus in the abdominal cavity recover.

It seemed to him that the question of drainage or no drainage was to be determined by the rules laid down by Dr. Delatour. If there is an old pyogenic membrane, that, certainly, should be drained just the same as any other abscess cavity. If there is none, there is no indication for drainage and nothing would be gained by it. What had struck him, perhaps, as forcibly as anything else was that he had been unable to determine beforehand which of these cases were going to recover and which were going to die. Perhaps the most favorable case of appendicitis that he had ever operated on developed a virulent peritonitis and died promptly. He saw the patient a short time after his attack began; his temperature was about 100° and pulse not over 80; the attack seemed to be slight. The patient had been taken sick at noon, and the speaker saw him early in the evening, and he was then much more comfortable than earlier in the day when he came home from business. The speaker scarcely felt justified in ordering him off to the hospital, and allowed him to remain home that night with the intention that if he did not improve during the night, he would operate the next day. He saw him the next morning, and he said he felt a great deal better; but, on examination, it was found he was not better; the temperature was still about 100° and the pulse 80. He operated in the afternoon, about twenty-four hours after he was taken ill. He was able to bring out the cecum with the appendix wrapped around by the omentum. The end of the cecum and a portion of the omentum were brought outside of the abdominal cavity, surrounded by sponges, and the omentum and appendix removed, both en masse, without unwrapping them. There was no pus, nor anything that looked like pus, and hardly any congestion about. A purse-string suture was passed around the stump of the appendix, the cecum and the stump of the omentum were returned to the abdominal cavity, and the wound closed. That patient developed a virulent peritonitis, and died three days after the operation; even the abdominal wound itself developed a gangrenous condition. The wound had been closed in layers with chromicised catgut sutures, and the muscle became gangrenous. He had seen other cases which he expected would die, and they recovered.

The speaker's experience with children did not correspond with that of Dr. Bristow. He had had a large experience with appendicitis in children, and they die very much the same as adults do. Some that he expected to recover died, and some that he expected to die recovered. The two cases of gangrene of the intestine following operation were both children. In one of these there were several feet of the ileum gangrenous, and in the other there was a large patch of gangrene of the ascending colon in close proximity to the appendix.

Dr. M. Figueira added that what he had said regarding drainage of the peritoneum was from his own experience, and involved what he had done and seen. He had seen these cases recover with the use of drainage; and he would continue to treat them in this way, in spite of the experience of other gentlemen.

Dr. Bristow explained that his remarks about drainage were intended to apply to general septic peritonitis, and not to localized foci of suppuration which, of course, should be drained.

Dr. C. H. Goodrich, in closing, called attention to a report of two cases in the *Medical Record,* operated on by a physician in Litchfield, Conn.—two cases of appendicitis with ruptured abscesses—and in these cases the abdomen was filled with saline solution and the abdomen closed, and both recovered.

Dr. Goodrich said that Clarke's theory, as he proposed it in his article on intra-peritoneal drainage, gave the epithelium of the diaphragm and the lymphatics and the blood-vessels credit for a supposed function of absorption, and he believed that the trouble with our cases of peritonitis was that the fluid that is thrown off was not absorbed fast enough; that if it was, the germs would not have time to multiply in such large numbers; and he believed that by his method he drains the peritoneal cavity, but does it without artificial drainage material. He based his whole paper on that theory. The speaker could offer only two cases drained with glass tubes in which the drainage did perfectly well, though he had never seen such remarkably good results after operation in which drainage was not used. He also called attention to the remarks recently made at the Academy of Medicine, by Dr, Keen, of Philadelphia, to the effect that the best time to operate on typhoid perforations of the intestine was in the second twelve hours, and not at the earliest possible moment.

ETRA-UTERINE PREGNANCY, OPERATION. ENORMOUS VENTRAL HERNIA, CONTAINING UTERUS, LEFT TUBE AND OVARY, BLADDER, OMENTUM, AND SEVERAL FEET OF SMALL INTESTINE; OPERATION. NORMAL PREGNANCY AND LABOR.

BY RUSSELL S. FOWLER, M.D.,

Instructor in Surgery, New York Polyclinic; Adjunct to Surgeon-in-Chief, Brooklyn Hospital; Assistant Surgeon, Methodist Episcopal Hospital; Assistant Surgeon, German Hospital; Consulting Surgeon, Southern Dispensary and Hospital, New York.

Bella G., aged 22, was admitted to the Brooklyn Hospital, March 20, 1896, service of Dr. George R. Fowler.

Previous History.—The patient had borne two children, the last twenty-two months before. There had been no miscarriages. Her last menstrual period was January 20, 1896.

History of Disease.—While eating dinner on March 20, there was sudden, severe pain in the epigastrium. On attempting to walk to the next room, the patient became unconscious and remained so for ten minutes. Vomiting occurred shortly afterward. Following this all pain ceased except on moving. She was removed to the hospital.

Condition on Admission.—Temperature, 98.2° F.; pulse, 85; respiration, 38. The right rectus muscle was rigid. There was slight distension. Pain was present in the epigastrium and right iliac fossa. There was some general tenderness which became extreme just below McBurney's point. The percussion note over the left iliac region was dull. An enema was given and proved effectual, but the dulness still persisted. There was no vaginal discharge. The pulse became feeble and rapid, the temperature fell to 97° F., and the respirations increased to 40. The diagnosis of ruptured right tubal pregnancy was made. The patient was taken to the operating-room in an extremely weak state.

Operation.—By Dr. George R. Fowler. A four-inch incision was made above the pubes and carried into the peritoneal cavity. There was an immediate gush of blood and clots. The hand of the operator rapidly grasped the right tube and thus stopped any further hemorrhage. While this tube and ovary were being ligated and removed, five pints of normal salt solution at a temperature of 120° F. were infused into the left median cephalic vein, which had been opened preliminarily for this purpose. The peritoneal cavity was sponged free of blood and fluid amounting to several quarts. The cavity was flooded with hot solution and left filled with it. The incision was closed with crossed silkworm gut sutures except for the lowermost angle, through which a gauze drain was placed against the stump of the excised tube and ovary. The subcuticular suture originally devised by Kendal Franks was employed in closing the incision. Abundant gauze dressings were applied. On examination, the excised mass showed that the fetus, one and three-quarters inches in length, had been free in the pelvis though still attached by the placenta to the tube.

The case suffered considerably from shock. There was some infection of the wound, which appeared late and delayed final wound-healing until May 8, when the case was discharged from the hospital, cured. At the time of discharge there was no hernia nor was there any perceptible difference in the feel on coughing at this point from other parts of the abdominal surface.

The case was lost track of until February 14, 1898, two years after the extra-uterine pregnancy, when she was seen by me at her home. She had been well for one year following her discharge from the hospital. One year ago she noted a small swelling at lower end of the laparotomy scar. This had progressively grown larger until a tumor the size of her head was present. She had experienced no discomfort except on account of its weight and size. She had worn a bandage to support it. Three days before I saw her, she had fallen while carrying a coal-bucket down the cellar stairs, striking her abdomen on the edge of the bucket. There was immediate pain in the tumor, and also in the left half of the abdomen, especially over the sigmoid flexure. Since this accident she had passed no gas, nor had she had any movement of the bowels. When I saw her there was present a large tumor, tender, tense and painful. There was also pain over the sigmoid. Temperature, 99.4° F.; pulse, 100. In view of the history, there was a possibility of an obstruction. I had her removed to the Brooklyn Hospital and given several large enemata, which brought away a quantity of gas and hard feces. Immediate operation was therefore unnecessary. Next morning the tumor was lax though still of enormous proportions. No mass of omentum could be felt through the skin, but the uterus could be felt attached to the right of the tumor, and the left tube and ovary could also be felt through the relaxed skin. These, as well as the bladder, as demonstrated by the catheter, formed part of the contents of the hernial sac. Operation was ordered for the 17th.

Technic of the Operation.—Russell S. Fowler. An eliptical incision, extending from the umbilicus to the pubic arch on each side of the tumor, so placed as to include all of the relaxed skin, was carried down through the skin and subcutaneous tissue to the deep layer of the superficial fascia. The dissection was carried from each side toward the middle line for the space of half an inch. The hernial sac covered by the attenuated deep layer of the superficial fascia was picked up between two anatomical forceps and incised. With scissors the sac was cut away from the underlying tissues as low down as could be conveniently reached, the fingers being introduced into the sac to guard its adherent contents from injury. Sight aided the fingers in this procedure. A large laparotomy sponge was introduced to block the neck of the hernial sac. Adherent omentum was ligated in sections with catgut and excised. The laparotomy sponge was pushed to one side and the omentum placed within the peritoneal cavity, the sponge preventing it or other peritoneal contents from intruding upon the operative field. Two coils of small intestine were adherent to the upper portion of the sac, one for the space of an inch and the other for the space of half an inch. These adhesions were short and fibrous, and did not allow of ligature. A flap of the peritoneal lining of the sac, having its base at the large intestinal adhesion, and of sufficient size to cover its surface, was dissected up, the adhesion cut through, and its raw surface covered with the flap. The flap was held in position with its edges turned in by a few interrupted Lembert sutures of the finest silk. The same procedure was attempted with the smaller adhesion, but the flap was found to be not large enough to cover the entire cut surface, so a continuous purse-string suture was introduced around the base of the adhesion and including the edge of the flap. All the fibrous adhesion was dissected away as close to the intestinal wall as possible without injury to the gut. The purse-string was drawn up, thus investing the denuded area and completely covering it with the peritoneal flap. It was to be noted that here, as in most cases, the adhesions were formed on the surface of the gut furthest from the mesenteric attachment. The intestine was now returned to the peritoneal cavity. The uterus adherent by its right cornu, the site of the tube removed two years before, was dissected free, and the raw surface of the adhesion covered with a peritoneal flap. The uterus was returned to its place in the abdominal cavity. The bladder formed part of the wall of the sac, and had evidently been drawn into the sac by the traction of the uterus. When the uterus was replaced, the bladder assumed its proper position. The sheath of the right rectus was opened with scissors beyond the line of scar tissue for the full extent of the wound. The same was done on the left side, the incisions slightly converging above and below so as to meet at the upper and lower angles of the wound. The right rectus was now retracted and separated from the posterior layer of its sheath sufficient to admit of an incision through the posterior layer of the sheath, and also through the underlying peritoneum that included all the scar tissue of the hernial ring. The abdominal contents were protected from injury by the finger introduced into the peritoneal cavity against and in front of the scissors. The same procedure was carried out on the opposite side. These incisions converged so as to meet at the upper and lower angles of the wound. This resulted in the complete excision of the scar tissue of the sac and ring. It now remained to coapt the various layers of the wound. The peritoneum was brought forward with clamps, the laparotomy sponges removed, and a clean one substituted, after bringing down the omentum. Cross sutures of silkworm gut (Fowler) were used to bring together accurately the various layers. This method, originally devised and published by Dr. George Ryerson Fowler, is the best suture in the majority of laparotomy wounds. I am indebted to the author for the privilege of using his description of this suture published in the first volume of the Methodist Episcopal Hospital Reports, 1887-1897. "The use of the so-called 'layer sutures' is probably the most rational method of effecting closure of the abdominal wound. The employment of buried catgut sutures for the purpose of bringing the incised edges of the different layers into apposition has been found untrustworthy, in that softening of this material frequently takes place before firm union has occurred, with the result of permitting gaping in one or more of the planes, owing to a retraction of either the muscular or aponeurotic fascial layers, or both. A non-absorbable layer suture which should possess all the advantages of the buried absorbable suture, and yet be capable of removal at will, was found to be a desideratum, and led to the introducion of our form of abdominal suture. The latter has been used in the majority of cases and has given the greatest satisfaction. The present method of its application is as follows: The suture consists of a strand of silkworm gut with a needle threaded on either end. In order to secure the needle firmly to the thread the latter is passed through the eye of the needle a second time, and from the same direction as the first, the resulting loop being then drawn taut (Fig. 19).

"Each needle is passed through the peritoneum near the edges of the wound in the manner of a Lembert suture, so as to approximate surfaces of the peritoneum rather than the edges (Fig. 20). The ends are then crossed to opposite sides of the wound and passed through the muscular and fascial layers (Fig. 21). Again the ends are reversed and passed through the skin (Fig. 22). In this manner the peritoneum is first secured, then the muscular layers, and finally the skin, in turn. The crossed sutures are tied in pairs on either side of the wound. In order to guard against cutting of the skin from the silkworm gut, the sutures are tied over 'bolsters' of sterile or iodoform gauze, or, what we find exceedingly convenient for this purpose, they are passed through sections of thick-walled tubing of soft rubber (aspirator tubing). As the sutures are drawn taut the parts present the appearance shown in Fig. 23. Upon 'setting' the sutures in position the ends of each pair of the latter are tied over the corresponding bolster in turn, and the skin edges of the abdominal wound approximated by the subcuticular suture known as the Kendal Franks, or Marcy, suture (Fig. 24).

"This method gives all the advantages of buried layer sutures, and yet places completely within control the length of time the sutures are to remain in place. Removal is accomplished by cutting the sutures beneath the bolster on one side and making traction upon the other end of the thread." The reader is referred to the original drawings in the Reports.

The case made an uninterrupted recovery. The cross sutures were removed on the eighteenth day. Two weeks later she left the hospital, one month following the operation.

The case again passed from under observation until April 6, 1899, one year and two months since the last operation, when she was admitted to the Maternity under the care of Dr. Francis H. Stuart. She was pregnant and at term. The labor was a normal one, with a somewhat prolonged first stage When discharged from the Maternity the condition of the abdominal scar was perfect.

It is not often that we are able to follow our cases out as completely as in this instance. When last heard from, Oct. 12, 1899, there was as yet no recurrence of the hernia.

CHANGES AFFECTING THE LONG ISLAND STATE HOSPITAL (FORMERLY THE KINGS COUNTY LUNATIC ASYLUM) INCIDENT TO ITS TRANSFER TO STATE ADMINISRATION.

BY ROBERT M. ELLIOTT, M.D.

Ten years have elapsed since the Legislature of this State passed a law known as the "State Care Act," providing for the care and maintenance of the poor and indigent insane, and their removal from almshouses and county institutions. The counties of New York, Kings, and Monroe were exempted from the operations of this act, but provision was made for the transfer of their insane whenever they should desire to be included under its operation. These counties had separate institutions for the care of their dependent insane, which were, comparatively speaking, fairly well equipped, and the desirability for their transfer was based largely upon the question of taxation. Not only were they supporting their own insane, but were also paying their quota toward the maintenance of the insane throughout the State. It is not the object of this paper to discuss the causes which led to the passage of the State Care Act; that is now a matter of record. Monroe County was the first to take advantage of this provision, and the following year the Monroe County Lunatic Asylum became the Rochester State Hospital. The Kings County Lunatic Asylum was transferred in 1895, and was designated the Long Island State Hospital; and some months later, in the spring of '96, the New York City Asylum became the Manhattan State Hospital, thus marking the consummation of State care.

The history of the Kings County Asylum is probably well known to most of you. It is almost fifty years since the department at Flatbush—I mean the plant which is in use at the present time—was opened for the reception and care of patients. It is a substantial and quaint old structure, not, of course, in accordance with modern ideas, but was undoubtedly one of the best of its kind in the land at that time. With two exceptions, no county in this State ever provided as good accommodations for its insane: had such been the case, the causes which led to the agitation for State care would not have existed. And here let me say that mechanical restraint was abolished in this institution twenty years ago by an honorable member of this society and a distinguished alienist, Dr. John C. Shaw, who was at that time the medical superintendent. There is a tradition in the place that one of the first things Dr. Shaw did after entering upon his duties was to collect all the various kinds of straps and apparatus then in use for restraint purposes, and make a bonfire of them before the eyes of the patients. Albeit, change of administration and new laws begat changed conditions, and it is to some of these I would invite your attention to-night.

At the outset I will take the liberty to quote the words of Commissioner Simis of the Department of Charities, who was identified with the management of the Kings County Asylum for several years. In delivering an address on State care of destitute children before the Association of Superintendents of Poor, which met at Poughkeepsie last June, the Commissioner used these words: "I have been led to this line of thought from my experience as a Commissioner in the old Department of Charities and Corrections of Kings County, which up to Oct. 1st, 1895, had charge of the insane of said county. You are aware that the State relieved the counties from the care of the insane, and State guardianship was substituted. The State concentrated the insane in a number of separate settlements under the charge of a State Board of Lunacy and a local management for each settlement. As I was interested in bringing about this result so far as Kings County is concerned, and have observed the operations of the change, I can unhesitatingly say that the patients and the community have received an incalculable benefit."

It has been my privilege during the last nine years to experience the transition from county to State administration of two institutions, *viz.*, those of Monroe and Kings counties, and my observations lead me to concur in the sentiments expressed by Mr. Simis, and to say that the standard of care has unquestionably been elevated. The State is proverbially more liberal toward her institutions than are counties.

Structural improvements form an important feature under the new administration, and almost all the furniture now in use throughout the entire institution has been provided during the last four years. Arm-chairs and rockers have taken the place of wooden settees. Bedsteads with woven-wire springs have been substituted for strap iron bedsteads and straw ticks. The walls have been decorated, and adorned with new pictures. Table-cloths are provided in all the dining-rooms, and a superior grade of table ware is in use. Increased facilities for diversion, recreation and employment of patients have been provided. More cheerful and homelike surroundings have thus been attained, and the comfort of the patients materially increased.

The proportion of attendants to patients has been increased, and a higher rate of wages is paid, with the result that we are able to command a higher grade. The Insanity Law of 1896 made it compulsory for each superintendent to establish and supervise a training school for nurses. Training schools had been in existence for several years in most of the older State hospitals, but there was no uniformity, and the rules governing each, the character of the instruction given, and the standard for graduation were left to the local management. Under the new régime an examining board, consisting of three superintendents, is appointed annually by the Lunacy Commission. This board formulates questions for entrance examinations held every year at each hospital, the standard being uniform for all the institutions. It also prepares the questions for examinations at the end of each term of instruction, and regulates the standard for graduation. The course of instruction covers a period of two years, and is conducted by the medical officers at each hospital. The curriculum is similar to that of general hospitals, and includes anatomy, physiology, hygiene, dietetics, administration of medicines, local applications, massage, hydrotherapy, bandaging, observation of symptoms, surgical and gynecological nursing, obstetrics, nervous diseases, etc. Entrance to the school is optional; those who take up the work and graduate are designated nurses, as distinguished from attendants, and receive a higher rate of compensation. The school was first organized at the Long Island State Hospital three years ago. Unlike general hospitals, graduates are permitted to continue in the service, and there is probably no other one agency which has contributed so largely to the welfare of the patients. Furthermore, the school has proved an incentive to many desirable persons to enter the service who formerly, under other circumstances, would not have been applicants. In other words, we are getting a higher grade of attendants. It is true that institutions for the insane do not afford the practical experience in general nursing which can be had in general hospitals; and vice versa, the general hospitals do not afford experience in the care of the insane; and it has been suggested that if some method could be devised whereby the work in each could be combined, much good would result. An arrangement exists whereby nurses can be obtained from the State hospitals to take charge of private cases outside, with the privilege of returning when at liberty. This has been the practise for years in some of the older institutions, especially those located in cities like Buffalo and Rochester.

Another matter which I wish to refer to in this connection is the facilities afforded for clinical instruction to students of medicine. The Lunacy Commission issued the following communication to the managers of the State hospitals: "The fact that insanity is far more frequent and more serious than many other diseases with the nature and symptoms of which medical students are required to possess a practical familiarity before being permitted to graduate, renders it of the highest importance to the public that a wider diffusion of correct knowledge of the disease and of its proper management, particularly in its earlier and most curable stage, should obtain among the medical profession. This is especially important in view of the fact that in a large majority of cases the presence of the disease, in the first instance, must necessarily be determined by the general practitioner—usually the family physician. Citizens of the State, of all classes, could not fail to derive benefit from the diffusion of a more practical knowledge of the subject among the medical profession. The recognized want of such knowledge is largely due to the fact that with few exceptions it is only within a comparatively recent period that this important branch of medical science has been systematically taught in medical schools, and inasmuch as it is only from public institutions that this material can be drawn, it would seem that no greater objection could justly be raised to the giving of such instruction, under proper restrictions, in hospitals and asylums for the insane, than to the clinical teaching of other branches of medicine in general hospitals, a practise which now extensively prevails throughout the civilized world. As there are large numbers of patients in the public hospitals for the insane who would offer no objection to the giving of clinical instruction to students of medicine in their presence, the Commission would earnestly recommend that the Boards of Managers of the several State hospitals afford to medical colleges situated in their vicinity, as well as to practising physicians who may desire to avail themselves of the privilege, such facilities for the clinical study of mental diseases as in the judgment of the medical superintendent may be deemed wise and proper." Speaking for the management of the Long Island State Hospital, I may say that it is fully in accord with this recommendation and stands ready to do all in its power to facilitate such work.

Passing to the commitment and reception of patients, there are two things which have created friction between the State and county authorities, not only in the case of Long Island, but throughout the State, and which have in some instances resulted in litigation. The Insanity Law vests in the superintendent of a State hospital the arbitrary power of refusing to receive a patient duly committed if in his judgment the patient is not insane "within the meaning of the statute." Section 60 provides that "No idiot shall be committed to or confined in a State hospital. But any epileptic or feeble-minded person becoming insane may be committed as an insane person to a State hospital for custody and treatment therein." Section 62 provides that "The superintendent or person in charge of any institution for the care and treatment of the insane may refuse to receive any person upon any such order (that is, the Judge's order for the commitment) if, in his judgment, such person is not insane within the meaning of this statute." The law, intentionally, does not define insanity; if it did, the question would still remain as to whether a particular case came within the definition. It was so designed for the purpose of excluding idiots and a class of decrepit, helpless, harmless, and hopeless cases—dotards, who may properly be put in the category of feeble-mindedness and cannot be benefited by treatment, requiring only nursing and custodial care. There seems to have been a growing tendency since the passage of the State Care Act to commit such persons, but the right to reject them has been sustained by the courts. The question arises—What should be done with them? A law was passed in '96—Chapter 914—which bears some relation to patients of this class. Section 1 says: "It shall be lawful for the State Board of Charities to exercise supervision over all aged, decrepit and feeble-minded persons who are not proper subjects for care and treatment in a hospital for the insane, but who, on application by themselves or by their relatives, or if without relatives, then by their friends or legal guardians, seek to obtain admission into any homes, retreats, or other asylums which may be authorized under the provisions of this act, to receive and administer to their necessities in a safe and humane way." Adequate provision for those who become a burden upon the community does not seem to have been made. Most of the homes for old men and women are maintained by private charity, and in any event would not have the capacity to receive all cases needing care. Relatives object to the almshouses, and frequently the almshouse authorities themselves are opposed to taking them if they are inclined to be at all troublesome, and most of them are to some degree. It is to be hoped that the State Board of Charities, or others having authority to act in the matter, will find means to properly provide for the hapless dependents.

The county authorities having duties to perform relating to the insane poor are required, before sending a person to a State hospital, to see that he is in a condition of bodily cleanliness and comfortably clothed with new clothing in accordance with regulations prescribed by the Lunacy Commission. These regulations require that the clothing shall be new in all cases, in consideration of the danger, always present, of the introduction of contagious or infectious diseases into institutions where large numbers of people are congregated. The local authorities were slow to comply with this requirement at first, and after the transfer of the New York City Asylums the superintendent found it necessary to refuse to receive patients because the Department of Charities and Corrections declined to furnish the required clothing. This matter was also taken into court, and decided in favor of the hospital.

The hospital authorities must be notified upon the commitment of any insane person, and it is their duty to send trained nurses to convey the patient to the hospital. This provision was made on purely humane grounds. When transportation was left to relatives or others, whose intentions are of course the very best, but who are fearful lest their charge should become more disturbed or unmanageable on knowing the truth, and are ignorant of the baneful influence created by deceiving them, they almost invariably deluded patients into the institution, giving them to understand that they were being taken to some hotel or resort or place of amusement, and leaving them in utter ignorance of the fact that they had been committed to an institution for the insane. The untoward effect of such deception is indisputable. Take, for instance, melancholia cases, where patients distrust and have certain delusions about those in whom they should have most confidence, and this is a characteristic of a considerable portion of those afflicted with melancholia; such treatment certainly intensifies the symptoms and retards recovery. Often the aid of the police was called in, and not infrequently the use of handcuffs and other means of restraint were resorted to, a practise which we have never found necessary since this task has been imposed upon us. It is the duty of nurses to explain to the patients before starting where they are being taken to and why. It is to this end that the law makes it obligatory that notice of the application for commitment be served personally upon the person alleged to be insane, before making such application. The Judge, however, may dispense with such personal service when there are good reasons for so doing. In our experience, no difficulty has resulted from these methods; as a rule, patients do not become resistive or more disturbed; on the contrary, confidence is inspired and they find as time passes that they can rely upon what the nurses and medical officers tell them. The majority of the insane in many respects are not so different from other people. Esquirol said of the inmates of asylums: "The same ideas, the same errors, the same passions, the same misfortunes, it is the same world; but in such a house the traits are stronger, the colors more vivid, the shades more marked, the effects more startling, because man is seen in all his nakedness, because he does not dissimulate his thoughts, because he does not conceal his defects, because he lends not to his passions the charm which seduces nor to his vices the appearances which deceive."

DISCUSSION.

Dr. Combes: I have been highly entertained by Dr. Elliott's version of the State Care Act; also the description of the institution of which he is the superintendent. I have on several occasions been to the institution, and I must say it is a model in every respect except perhaps one, or possibly two. The second I think perhaps it would be better if I should not mention at all, for fear it might be construed that I might be hostile to the institution, which is far from my intention. The institution under the State Care Act, as Dr. Elliott says, is no doubt admirably managed in every particular, and, as I said before, I only take exception to one and possibly two points.

The one point in particular which I wish to make in this matter is the ratio of physicians to patients in the institution. As I understand it now, Dr. Elliott has under his care somewhere between 1100 and 1200 patients. The staff as it is constituted at the present time consists of Dr Elliott himself——[By Dr. Elliott: "Where is Dr. Dewing?"] I am speaking of the Flatbush branch of the Long Island State Hospital—Dr. Elliott is now the medical superintendent, and he has, I believe, three male assistants and a female physician. Now, I leave it to the members of this society if the proportion is proper; if it is possible for any five physicians to care for and properly treat between 1100 and 1200 patients? The gentlemen must be at least superior to myself or any of the physicians whom I have met.

Now, gentlemen, I do not wish for a moment to have you think that I take this exception as a fault of Dr. Elliott's. Dr. Elliott, no doubt, would have more assistants provided he could get them. The trouble lies, no doubt, with the State officials. It strikes me that it is impossible for five physicians to take care of such a number, especially so when, as you all know, a great many of these patients must be fed, and they must be fed by hands who thoroughly understand their business. It is a very delicate undertaking, indeed, to feed a patient who is struggling, and the proportion of patients that require to be fed being very large, in some cases very much larger than one would suppose, makes the task a large one. In my experience I had at one time, not over three months ago, a total of twenty-five or twenty-six patients under my care. Of that twenty-five or twenty-six there was one day on which I fed five of them, twice during the day, which made ten feedings during the day. That makes a proportion of about 20 per cent. of the patients I had under my care that I was feeding. Now, provided they had the same proportion——[By Dr. Elliott: "That is not the usual proportion.]—Of course, that is not usual, I will grant that The usual number is probably from 5 to 10 per cent. of the patients which should be fed, and 10 per cent. of this 1000 or 1200 patients would be anywhere from 100 to 120 patients. Now, with Dr. Elliott taking charge of the executive part of the institution, and the others taking their turn, it strikes me that it is utterly impossible for these patients to be properly fed and nourished as they should be to enable them to get over their trouble.

The other question of which I spoke I will pass; I think it is better not to say anything about it.

Dr. Elliott: I think there is one thing which Dr. Combes overlooked in his remarks in regard to the proportion of physicians to the number of patients in the State service. I think that the doctor will admit that we get a different class of patients from those who go to private institutions. Probably the patients in Dr. Combes' institution are mostly recent cases, cases that might be considered acute. It should be remembered that in the State service a large majority of the patients are chronic and require care mostly of a custodial nature, and of course that class of patients do not need the number of physicians.

I think that the policy of the Lunacy Commission at present in regard to that matter is that there should be at least one physician for every 400 chronic cases, and one physician for every fifty acute cases. The number of physicians that we have at the Flatbush Hospital Dr. Combes has mistaken by one. We have, or should have, four male physicians. At present there is a vacancy, but the full staff comprises four male physicians and one woman, and the number of patients is approximately 1150.

DEATH FROM CARBOLIC ACID.

A death recently occurred in the City Hospital, Manhattan, in which the nurse poured over the head and body of a patient in a bath-tub eight ounces of 95 per cent. carbolic acid from a bottle labeled "Tincture of Delphinium." The patient, a man 34 years of age, who had nephritis, died in one hour.

THE BROOKLYN MEDICAL JOURNAL.

Communications in reference to Advertisements or Subscriptions (Subscription Price $2.00 per annum) should be addressed: Business Manager, BROOKLYN MEDICAL JOURNAL, 260 Hancock Street, Brooklyn, N. Y.

Exchanges should be addressed: BROOKLYN MEDICAL JOURNAL, 102 Court Street, Brooklyn, N. Y.

Books for Review and Articles for Publication should be addressed: BROOKLYN MEDICAL JOURNAL, Polhemus Memorial Clinic, Brooklyn, N. Y.

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EDITORIAL.

MEDICAL NEWS.

Under the above title there has been established in this Journal a new department under the editorship of Charles Dwight Napier, M.D., whose first contribution appears in this issue. The addition of Dr. Napier to the Editorial Committee strengthens it at a point where it needed reinforcement; but the difficulty has hitherto been to find the right man for the place. This has now been accomplished, and we earnestly ask for the coöperation of the profession in this effort to present to our readers such items of general interest as may come to their notice. With this aid the department will be a success; without it, it must be a failure.

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MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The ninety-fourth annual meeting of this Society was held in Albany, January 30 to February 1. While from a scientific standpoint it was a successful meeting, still the manner in which the claims of Kings County for recognition were treated has resulted in a feeling on the part of many that there are those in the Society whose methods are not calculated to promote its best interests. The membership of this county entitles it to prominent representation, and will not, without protest, permit its candidates to be continually overslaughed.

The inaugural address of President Macdonald dealt with several of the knotty problems of the day; foremost among which were Christian Science and Osteopathy. He considered that the difficulty of dealing with these frauds was the inadequate legal definition of "practise of medicine." The movement towards establishing sanitaria for the treatment of tuberculosis was referred to, and the query propounded whether something more might not be done to prevent the crowding of tenement-houses, and to furnish better food to the poor.

Perhaps the most important subject touched upon by the President was the relation between the State Society and the American Medical Association. He said that he was unable to discover any difference in the ethical behavior of the members of these societies, and that he thought that honesty and good manners came from good home-training and were not the results of legislation or codes of ethics.

It was a matter of some surprise to the profession, we imagine, to learn that two hundred and seventy-five medical bills demanded the attention of the Committee on Legislation during the legislative year of 1899.

Dr. Lewi, of the State Board of Medical Examiners, announced that hereafter there would be but four licensing examinations in each year, instead of five; and that seven hundred and thirty-eight candidates had appeared before the board representing the State Society, of whom 18.69 per cent. had been rejected. It is rather a sad commentary on medical teaching that nearly one-fifth of all who apply for permission to practise in this State are found to be incompetent.

If Dr. William H. Thompson, who presented a paper on the "Classification of Infectious Diseases," is able to set the profession right on the proper use of the terms "infectious" and "contagious," he will accomplish more than any of his predecessors. All diseases caused by specific micro-organisms are in his opinion infectious and communicable; of these there are three varieties: (1) contagious, (2) non-contagious, and (3) inoculable. The contagious are those in which proximity to the infected of those who are susceptible is sufficient for communication. The non-contagious include those diseases in which communication is due to intermediate means; and inoculable, those in which the infection is communicated through a wound.

"The Attitude of the State and Municipality in the Care of Pulmonary Tuberculosis among the Poor," was presented by Dr. E. O. Otis of Boston. The facts he brought forward were not new, but he handled them in an interesting way. He thought the public interest should be aroused by making the crusade against tuberculosis fashionable, and bv enlisting the aid of the daily press. He spoke in behalf of the establishment of sanatoria for the treatment of incipient cases.

Dr. Bowditch read a paper on the work accomplished at the State Hospital for Consumptives at Rutland, Mass., which had been in operation since 1898, and which had demonstrated the value of such institutions.

Other papers were read, dealing with the subject of tuberculosis in its many phases; the climatic treatment in the Adirondacks; the past, present and future legislation concerning it; the policy of the State relative thereto, and especially with reference to taxation.

Other important matters were presented and discussed, but reference to them we shall be compelled to defer until another issue.

BUBONIC PLAGUE.

The prevalence of this disease in Honolulu, and its presence in many other ports with which the United States is in communication, has aroused great interest in everything connected with this pestilential disease. It is, we think, not generally known that at the time the "J. W. Taylor" arrived in New York harbor, and her captain died of what was feared might be the plague, there was but one culture of the pest bacillus in this country and that was at the Hoagland Laboratory, having been brought from Hamburg by Dr. E. H. Wilson, the Director of Bacteriology. The cultures from the cases at Quarantine were sent to Dr. Wilson, and he was able to compare them with the cultures he had, and thus determine that the health officials had the genuine plague to deal with. It was rather gratifying to the friends of Dr. Wilson that, although his connection with the Department of Health as Consulting Bacteriologist, a purely honorary position, was severed when the consolidation of the two cities took place, yet it was to him and to a Brooklyn institution that application had to be made to determine a vital question; and that of all the bacteriologists in this vicinity he alone had the foresight and zeal to provide a culture of the bubonic pest.

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PROGRESS IN MEDICINE.

OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.

ONE HUNDRED CASES OF CATARACT EXTRACTION.

Theobald (*Am. Jour. of Ophthalmology,* December, 1899) reports 100 consecutive cases of cataract extraction. Simple extraction was done in only 20 cases, and although the ultimate results were fairly satisfactory, yet there were three cases in which there was prolapse of the iris, and while only two of these were sufficiently extensive to require abscission, they induced, in the operator, a lack of confidence in the method. Therefore, for some time past, he has been led to adhere to the modified Graefe extraction, namely, "A section throughout in the sclero-corneal junction, a narrow conjunctional flap, and a small iridectomy made by a single snip of the scissors."

OCULAR MASSAGE.

At the International Ophthalmological Congress, held in Utrecht, Darier (*La Clinique Ophthalmologique,* August 25, 1899) read a paper on the subject of ocular massage. The following are some of the diseased conditions in which this form of treatment seemed to exert a favorable influence: Leucoma, parenchymatous keratitis, episcleritis, glaucoma, accommodative asthenopia, and also in hastening resorption of cortical masses after the operation of discission. Maklokow used "vibratory massage" by means of an electrical device which gives 9000 vibrations in a minute. Sixteen cases of glaucoma were treated. The intra-ocular tension in each case was lessened after the first treatment, but the tension often returned in the course of twenty-four hours, therefore it was necessary to repeat the massage several times a day.

Domec (*La Clinique Ophthalmologique,* October, 1899) advocates "pression massage" in the treatment of glaucoma. The technic is something as follows: The patient's eyes being closed, the surgeon places his thumbs upon the lids directly over the cornea. Then gentle pressure is made and quickly withdrawn. This process of making and then releasing pressure is continued about five minutes. The massage must be begun very gently and not carried to the point of producing pain.

RETROBULBAR OPTIC NEURITIS.

Nettleship (*The Royal London Ophthalmic Hospital Reports,* 1899) states that usually in retrobulbar optic neuritis, only one optic nerve is affected, but if both should become diseased there is commonly an interval of months and sometimes years between the two attacks. The failure of sight is generally rapid, the climax being reached in one to five days, but it is never sudden as in embolism or arterial thrombosis. The degree of failure of vision varies in the idiopathic cases from the faintest "mistiness" of objects in the center of the field to total loss of perception. Recovery of good sight may occur even in the worst cases, provided that the improvement sets in tolerably soon. The direct reflex action of the pupil is lowered, even in the milder cases, more than the loss of visual acuteness seems to warrant and in the bad cases it is of course almost entirely lost.

Pain about the affected eye is a very common symptom, though as in many other maladies its value in diagnosis requires adjustment for each patient. There may be spontaneous pain behind the eye and in the corresponding temporal region, also pain may be caused or increased by movements of the eye or produced by pressing the eyeball back into the orbit.

The diagnosis of retrobulbar neuritis is seldom difficult if attention be paid to the cardinal points, viz.: the mode and rapidity of failure of vision, pain, the pupil and condition of the field. Slowly progressive double optic atrophy with loss of knee-jerks, or the latter with loss of the pupillary light reflex arouse a strong suspicion of incipient tabes dorsalis.

LEAD AMBLYOPIA.

Folker (*Trans. of the Ophthalmological Society of the United Kingdom,* vol. xix, 1899) reports five cases of toxic amblyopia from lead. Other symptoms of plumbism were more or less marked in all the cases. Four of the patients became totally blind.

[In all cases of amblyopia, where the etiology is at all doubtful, the possibility or perhaps the probability of lead poisoning should be kept in mind.—J. W. I.]

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PROCEEDINGS OF SOCIETIES.

BROOKLYN SURGICAL SOCIETY.

Regular Meeting, November 2, 1899.

The President, Dr. Walter C. Wood, in the Chair.

OPERATIONS FOR SYPHILITIC NECROSIS OF THE HARD PALATE AND OF THE NASAL BONES.

Dr. W. C. Wood presented a man, 28 years of age, who had been admitted to the Brooklyn Hospital November 17, 1898, for necrosis of the hard palate and internal nasal bones. There was a history of hard chancre, acquired in July, 1895, followed by secondary symptoms. No active lesions were present on admission, except those of the nose. A foul nasal discharge was present. The interior of the mouth showed an absence of soft tissue in the center of the hard palate, with bone at the bottom. Pressure with the finger showed this bone to be movable. Under ether, without any incision, and by means of an artery forceps, with additional aid with the finger through the opening in the mouth and posterior nasal space, about twelve large sequestra were removed. These included the bony floor of the nose, the vomer, and the inferior turbinated bones, with some few from the ethmoid. There was free hemorrhage, which was controlled by tight packing. The after-treatment included douches and the free use of iodid of potash internally. The patient was discharged on Dec. 3.

In January of the following year, 1899, he was readmitted for acute inflammatory symptoms of the left frontal sinus of ten-days' duration. Under ether a transverse incision was made over the sinus. The frontal bone was found eroded. It was chiseled away freely, the sinus opened, and sequestra and fetid pus removed. A probe was passed into the nasal cavity and followed by a spoon to enlarge the drainage. The cavity was packed with iodoform gauze. The patient was discharged cured in two weeks. He now wears an obturator, and speaks in a manner almost natural. He has no nasal discharge, nor depression of the bridge of the nose, and no further symptoms of necrosis nor of his constitutional disease. The speaker called attention to the fact, not generally understood, that it is not the vomer nor the internal nasal bones that support the nose, as this case demonstrated.

ABSCESS CAVITY WITH CALCAREOUS WALL, INVOLVING LIVER, DIAPHRAGM AND LUNG: OPERATION: RECOVERY.

Dr. W. C. Wood presented a patient 60 years of age, a hard-working German woman, who had made no previous complaint of ill-health. She was seized on November 25, 1898, with a severe attack of coughing while sweeping the snow from the steps. It was said that she coughed up a large amount of pus. She was first seen by Dr. Wood in April, 1899, when he learned that on many occasions since the preceding November she had coughed up large amounts of pus. The specimen she brought to him was about two ounces in amount, and stained with bile. She also complained of a bitter taste in the mouth after coughing. Examination of the chest and liver did not disclose the site of the lesion, and the speaker declined to operate. She next came to him in June, having failed much in health, and with the same symptoms continuing. Inspection showed a little fulness on the right side of the chest at the base, but no dulness. The reporter could not determine any enlargement of the liver. He sent her to St. Mary's Hospital, where he resected about four inches of the seventh right rib in the posterior axillary line, and entered the pleural cavity. The pleural cavity and the adjacent lung were normal, but on exploring with the hand between the base of the lung and the diaphragm dense adhesions were encountered.

On separating them, at a distance of nearly six inches from the rib, a bony wall was found. Firm pressure broke this down and a cavity about 2½ inches in diameter was entered. This had a complete calcareous lining, some of which was broken down with forceps and removed. This cavity was chiefly in the substance of the liver, and extended through the diaphragm. Free hemorrhage resulted, and the patient's condition was alarming; so the operator packed the cavity and lower pleural space with gauze, four yards long and one yard wide. Blood and bile drained away. Two weeks afterward, under anesthesia, he removed the balance of the calcareous substance and again packed the wound forcibly to arrest the free hemorrhage. In a week the patient had ceased to cough, and made a steady recovery, the wound discharge being bile-stained. The wound was healed on leaving the hospital early in September, and there has been a great gain in general health.

In this case the speaker did not feel positive as to the determining cause. In closing, he said that he believed that there were possibly some spiculæ of calcareous matter in the abscess cavity that still remained and kept open the sinus. The patient ceased to spit up pus about a week after the second operation, which allowed the cavity to contract.

The calcareous plates which were presented represented about two-thirds of the amount removed, many came away in small pieces. Such deposits, the speaker said, are known to be similar to the calcareous deposit occurring in old age, the senile arterial deposits with which we are familiar. They occur in the liver and occasionally in the tunica vaginalis. The speaker had also seen them in the knee-joint, and as the result of a degenerative process in certain tumors. It is stated that they are common in the liver and lung, yet this is the first case he had seen or known about. It is said when they occur in these organs it is generally at the site of previous parasitic or tubercular necrosis.

DISCUSSION.

Dr. J. B. Bogart expressed his indebtedness to Dr. Wood for the privilege of seeing particularly the first case. It was especially interesting to him in connection with his work on the defects of the palate, both hard and soft, to find that even a small opening in the center of a hard palate, which for the greater portion of the patient's life was perfect, should result in such a defective speech in the pronunciation of certain words; also the fact that the general appearance of the patient could be so well maintained in the absence of all the bony structures within the nose.

In regard to the case of abscess of the liver with calcareous plates, he had never seen such a case. He had, however, seen these calcareous deposits in other portions of the body, more especially in the tunica vaginalis.

Dr. M. Figueira said that about two years ago he had removed by vaginal hysterectomy a tumor in which these calcareous plates were found. The case was that of an old lady who had been suffering a great many years with pains in the pelvic region, bearing-down pains, trouble in defecation and difficulty in urinating. On examination, he found a hard tumor in the uterine cavity or attached to the uterus, he could not determine which. He did a vaginal operation, and had to remove the entire uterus to remove the mass. The tumor proved to be a uterine fibroid that had undergone calcareous degeneration; it was about the size of an orange. It was a mass of plates and pieces of calcareous deposits, which was attached to the uterine-wall and could hardly be separated from it. He supposed it was a case in which the process was similar to this; and this process is the same as that which results in the production of the so-called "lung-stones." Chronic tubercular cases sometimes cough up cheesy deposits which have undergone calcareous degeneration.

Dr. Henry Wallace said that he had seen several cases of syphilitic disease of the nose. This, however, was the most extensive that he had ever seen, not resulting in marked deformity of the nasal organ. He remembered a case seen recently in which the specific symptoms had been in abeyance for two years, as far as he knew. The patient had been under treatment for fully three years, and had been apparently cured. He then came to the speaker with a very much swollen and congested turbinated bone. This grew worse; and there was a good deal of discharge and more or less pain over the malar bone. Against advice the patient took a trip to Europe, and by the time he reached there he was obliged to go to a surgeon as he had a profuse discharge of pus from that side of the nose, which proved to be from the antrum of Highmore. This was followed very rapidly by a necrosis of the lower turbinated bone, which was removed entirely by the surgeon on the other side. There was also a necrosis of the lower part of the septum, involving the tissues between its two layers. He was put under specific treatment and local applications of the vaporized calomel, which is so much used in Germany, and he made a good recovery.

The case of calcareous degeneration that the President had presented, recalled such a case in the speaker's first years of dispensary work at the College Hospital, in which there was complete calcareous degeneration of the dorsal vein of the penis in an elderly man. He described the deformity, when the organ was in a partially erect position, as being almost in the position of a chordee. The speaker said that it was a very interesting case, but at that time he was not a member of the Surgical Society and consequently no one saw it but himself and colleagues in the dispensary.

MELANOTIC SARCOMA OF THE AXILLA.

Dr. M. Figueira presented a specimen of melanotic sarcoma removed from the axillary space. The subject of the tumor was a woman, 26 years old, single, with a history of tuberculosis on the father's side; she had no specific history or history of tumor or cancer, so far as could be ascertained. She developed, six months previous to the removal of the tumor, a lump in the right axillary space, close to the front of the axilla. It was not painful and it did not inconvenience her except from its mechanical presence. When she came to him for examination, previous to admission to the hospital, she was a small, under-sized, anemic girl, had a slight cough—no abnormal physical signs in the lungs or heart. She had a lump on the right side close to the border of the pectoral muscle, about the size of a fist, somewhat movable, not very adherent, not painful or tender, and the glands in the axilla were moderately enlarged as were the glands along the sternocleidomastoid on both sides. Besides this tumor in the axillary space she had two smaller tumors, one on the border of the breast and the other on the free border of the ribs.

She went to the hospital and this tumor was removed. It presented the dark appearance which it retained even after it had been in alcohol. The other two small growths were excised at the same time and presented the same appearance. She recovered from the operation with primary union, and was discharged. In the course of two months she developed pulmonary disturbance with dyspnea, bloody expectoration, moist râles and marked cyanosis, and died in the course of two or three weeks, showing involvement of the mediastinal glands and of the lung tissue itself.

This form of melanotic sarcoma represents one of the most malignant forms of tumor that the surgeon has to deal with. Even carcinoma of the soft variety does not represent such a type of malignancy as these melanotic sarcomata do. They are especially malignant in the way of the rapidity with which they return in the wound or in some of the internal organs when excised. Coley reports one case in which the disease returned in the brain and another case in which it returned in the spine. The speaker had seen one case in which it returned in the cicatrix; and in the case reported it returned in the lung. Their malignancy is still more marked in the tendency they have to metastatic propagation. A case has been reported recently by a German surgeon in which about 100 tumors were found. This seems to be the rule after the excision of these tumors, that metastasis takes place in distant organs, and so the patient dies. To show the mortality of these tumors, out of 137 cases operated on, only six were cured. And again, their malignancy is seen in the results of treatment, not only operative treatment, but the treatment that has been successful in the cases of non-operative sarcoma by the injection of the toxins of the bacillus of erysipelas and bacillus prodigiosus. The result of the injections of these toxins in the cases of non-operative sarcoma has been quite encouraging in other forms of sarcoma, but in the melanotic forms, Coley reports no less than six cases in which he and Bull of New York used the combined antitoxin—which is believed to be more beneficial than treatment by the single antitoxin—and all of these cases went to a fatal termination without being influenced in the least by the treatment. Although this is discouraging, yet, if looked at in the true light, it seems to give a ray of hope for final success in the treatment of these diseases. The speaker referred to the success of the treatment of sarcoma by the toxin of erysipelas and the bacillus prodigiosus as pointing to the probability that these tumors are due to infection with micro-organisms; otherwise the action of these toxins on the treatment of this disease could not be explained; and along these lines the time may not be distant when a treatment may be found that will be more successful than our present operations.

Dr. H. B. Delatour, during the past winter, had had a very similar case to the one presented by Dr. Figueira, a man, about 30 years of age, in whom the tumor occupied the right axilla along the pectoral muscle, and the secondary growth was on the inner side of the arm. The history was that the growth appeared shortly after a strain, and the man attributed the whole thing to that.

The axillary growth was easily removed. The growth in the arm completely surrounded the blood-vessels and nerves and the capsule seemed to be broken so the vessels and nerves passed through the tumor, and it was impossible to thoroughly remove the growth without severing the vessels and nerves, and of course if that were done it meant an amputation at the shoulder or even complete amputation of the upper extremity; and, in view of the malignancy of the growth, it did not seem proper to undertake such an operation under such conditions. The mass was removed as thoroughly and completely as possible. The man made a good recovery from the operation. Two or three months later he came back with recurrence of the growth in the arm.

Dr. Charles H. Goodrich read a paper on "Diffuse Infective Peritonitis." (See this Journal, p. 145.)

BROOKLYN GYNECOLOGICAL SOCIETY.

Stated meeting was held in Apollo Hall, December 1, 1899.

Vice-President Wm. Maddren in the Chair.

PRESENTATION OF SPECIMENS AND INSTRUMENTS.

Dr. Polak: Mr. Chairman and gentlemen, I call your attention to this apparatus with which you are probably familiar and yet it is of such recent date, that perhaps, while you have heard of it you may not have seen it. It is the vaporizing apparatus of Duhrsen. Its uses are in the cure of endometritis and in hemorrhagic conditions; menorrhagia from sub-involution, menorrhagia from some small submucous fibroids and menorrhagia from cancerous degenerations of the uterus. The apparatus consists of several parts; an alcohol lamp that fits into the bottom, while above it are a boiler or water receptacle, a stop-cock, a safety-valve, and a thermometer. The thermometer is marked in a centigrade scale up to 140°. The idea of this apparatus is that it is portable and is for use in non-surgical gynecology. Water is placed in the boiler, the alcohol lamp lighted, and the water is brought to a boil. When the temperature of the superheated steam is 110° centigrade a rubber tube is adjusted and connected with a cannula or sound, and this apparatus of non-conducting material is passed into the uterus. There are some wooden speculæ that go with it, but I have not found these necessary in order to protect the vulva or vagina in the limited use I have given the instrument, because this tube and handle are of non-conducting material and if a little care is used in the withdrawal of the inside tube, you will do no particular injury to the vulva or vagina by the heat that is generated. Of course it goes without saying that sufficient dilatation must first have been obtained, consequently you will see its use is limited to those cases where you have a large, patulous cervix. The tube being passed into the uterus and everything being in readiness, your steam up to 110° C., the stop-cock is then turned on. It is well to test your steam first, turn it off again, pass the metal tube in up to the projecting rubber tube, and turn it on and give a séance of half a minute in ordinary cases of endometritis. In cancerous cases you may use a séance of a minute to a minute and a half. My experience has been limited to its use in controlling hemorrhage in two cases of cancer and in one case of septic metritis and I must say that the results were very gratifying. In one of the cancer cases the hemorrhage was quite considerable, and after scraping out all the broken-down tissue it was controlled to a nicety by the application of the steam.

The objections to this apparatus as it stands and the improvements I would suggest are these: I believe in the first place this tube could be made curved, and I do not think it need be of quite so large a caliber, because it is awkward to handle. Another difficulty I have found in using it is that where you need more than twenty seconds or half a minute, the steam condenses so rapidly that if you take the tube out you will find a quantity of water in it, and so are not really getting the full temperature of the steam. That perhaps could be regulated by a larger boiler or some way to get a higher pressure for a long time, but as the apparatus is now it is defective in those points: the shape of the tube and the size of the tube and the impracticability of getting a temperature of 106° or above for a period of over twenty seconds or half a minute. It is not necessary to use an antiseptic in conjunction with its application.

Dr. J. E. Langstaff: I would like to ask the Doctor how much water he used. I think the less the amount of water used the drier the steam and the higher the temperature.

Dr. L. G. Baldwin: I would like to ask Dr. Polak if his results in the treatment of hemorrhage in these cases were any better than by the old methods; how many applications of steam were required, and whether a packing of gauze once would not have done just as well, or if an application of chloride of zinc in the cancer cases would not have been equally good. Reports have not been flattering in septic endometritis; there have been more failures than successes. It would be interesting to know how hot the steam is when it reaches the cavity of the uterus; is there any experiment by which he could tell how hot it is when it reaches the seat of the disease?

Dr. MacEvitt: It seems to me, Mr. Chairman, that the fact of the steam entering the interior of the uterus, condensation must necessarily take place. What is the advantage over simply injecting some solution?

Dr. McNaughton: There have been several cases reported treated in this manner in which the patient has gone into collapse. I do not know for what reason. There was no explanation given. I think the effect on the tissue is a chemical one; of course it coagulates the albumin and that is all it does. The only thing is, can the heat be applied to parts that perhaps would not be easily reached by a chemical?

Dr. Polak: Regarding Dr. McNaughton's statement I must differ from his theory of it; that is, I do not think its effect is that of a chemical. I think that Duhrsen's idea is to carry into that uterus a steam of a temperature so high that he gets a heat effect. The steam does not condense in the uterus, as steam comes out of the tube; we have not been able to test it accurately, except by an ordinary thermometer in the generated steam, and it has run up to over 100° centigrade. There is only one way to make the test, and that is to have a hollow body, similar to the uterus, and discharge the steam into it. The advantage over chemicals I think is that by having a non-conductor as an envelop, we subject only the inside of the uterus and not the cervical canal to the possible destruction. Of course there are cases where it has been improperly used, and where all of us will fall into that same accident perhaps, and cauterize the canal. I can see how it can be done very readily because the generated heat is tremendous; but it does not last long enough to be as satisfactory as I would like. So far as its virtue in cancer cases as a hemostatic, it acts as heat and affects the tissue very much as the cautery does, and if there is any virtue in extreme heat on the cancer germ, Duhrsen believes that is the advantage of it. Personally, I have had such a limited experience with it that I could not have told whether those cases would not have done as well if packed with iodoform gauze or treated with chloride of zinc. It is certainly a very easy and ready method for use in ordinary office practice. It does not need an extra amount of preparation, needing only the sterilization of the uterine os. I think that the cases of acute syncope and collapse that have occurred from its use would have been caused by throwing anything into those particular uteri. I have not infrequently found in ordinary intra-uterine medication with iodin or carbolic acid that patients will go into collapse on the table, and I do not know that that should be held against this particular apparatus any more than against any intra-uterine treatment. There are a great many things to learn as to its advantages and disadvantages. My experience with it is confined to the three cases cited and I brought it for the purpose of hearing what you had to say and to see if I could get any suggestions as to remodeling the apparatus which is defective in the points to which I have called your attention.

The paper of the evening was read by Dr. J. C. MacEvitt on the subject: "Notes on Cancer, with a Clinical Division for the Purpose of Determining Radical or Palliative Measures and to Formulate a Basis for a More Scientific Compilation of Results."

Discussed by J. W. Hunt, J. E. Langstaff, L. G. Baldwin, John O. Polak, Wm. Maddren, E. Palmer, George McNaughton.

PRESENTATION OF SPECIMENS.

Dr. Palmer: I operated three weeks ago yesterday on a woman 38 years of age, a trained nurse. She came under my observation last July with a history of having had more or less profuse uterine hemorrhage for eight months; she had all the general appearances of a woman who had lost large quantities of blood. She was very much averse to even an examination and delayed it from week to week until finally, about the last week in July, I made an examination and found an irregular sized uterus and hemorrhage almost continuous, so I curetted her thoroughly. There came away from the curetting, I should say, fully two tablespoonfuls of material which looked very much like broken-down epithelial cancer. I saved it all and sent it to the laboratory. Dr. Murray examined it very carefully and held off his report and finally sent some slides to Dr. Van Cott in the Adirondacks, and he examined it and they sent a combined report to me stating it to be adenitis of the uterus. The patient went away and was gone for a couple of months and came back improved in general health, but still had more or less dribbling of blood, but no active hemorrhage though the menstrual period was prolonged. I again made an examination and discovered this general irregular outline and indurated condition, and I made a diagnosis of fibroid tumor of the uterus and advised hysterectomy. There was something about the general appearance of the woman that made me more solicitous, her features and complexion, so like a malignant cachexia, impressed my mind with the idea that she had possibly some malignant trouble of that uterus. After a good deal of persuasion and reasoning she submitted to operation three weeks ago yesterday. I removed the entire uterus, with its adnexa, excepting a very small portion of the cervix—just enough to leave the attachment to the vaginal wall. On splitting the specimen open I found it to be in gross appearance a multiple fibroid; nodules not very largely developed, but a number of them, and in the cavity of the uterus quite a large myoma presenting. Dr. Van Cott took the specimen over to the laboratory and made a number of slides and found carcinoma developing in it—a most valuable specimen. So we have here a multiple fibroid, myoma in the cavity, and the carcinomatous degeneration occurring in it. The specimen shows that sometimes we have these cases running into malignancy even with all the care we may take, and we cannot stop it. Both ovaries contained some very much decomposed blood.

Dr. Polak: Did Dr. Van Cott find any adenoma in his last examination?

Dr. Palmer: No; I think not; though it was found in the curettings sent to him.

FREDERIC J. SHOOP, M.D.,
Recording Secretary.

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BROOKLYN PEDIATRIC SOCIETY.

The fourth regular meeting of the Brooklyn Pediatric Society was held at Apollo Hall on Friday evening, January 19, 1900, with the President, Dr. Henry N. Read, in the chair.

The scientific program was as follows: Part I. "A Peculiar Epidemic of Complicated Measles, with Report of Cases," by

Dr. Wm. M. Hutchinson. Discussion by Drs. Benjamin Edson, Wm. A. Northridge, John W. Parrish, E. H. Bartley, Jerome Walker, Mary Ingram, and Henry N. Read. Part II. "Notes on the Diagnostic Differences Between Scarlet Fever and Urticaria," by Dr. Bartley. Discussion by Drs. Parrish, Edson, Walker, Hutchinson, Read, and Wm. A. Northridge. The meetings of the society are held at Apollo Hall on the third Friday evening in each month. All interested are cordially invited.

Wm. A. Northridge,
Secretary.

HISTORICAL DEPARTMENT.

THE JENNER CENTENNIAL—1796-1896.

SPEAKERS AT THE CELEBRATION OF THE INAUGURATION OF VACCINATION.

UNDER THE AUSPICES OF THE MEDICAL SOCIETY COUNTY OF KINGS, MAY 14, 1896.

George McNaughton, M.D., President of the Society, was born in Monroe County, N. Y., in 1856, and graduated from Bellevue Hospital Medical College in 1878; serving as Interne in the Jersey City Hospital during 1878-79, and began practice of medicine in Brooklyn in 1880; Gynecologist to the Long Island College Hospital and the Kings County Hospital. He has been President of the Brooklyn Gynecological Society, in 1894-95, and of the Medical Society County of Kings during the years of 1894-95-96-97.

Rt. Rev. Henry Codman Potter, A.M., D.D., LL.D.

Born in Schenectady, N. Y., May 25, 1835; he was educated at the Philadelphia Episcopal Academy, and Theological Seminary, Virginia; A.M. 1863, D.D. 1865, LL.D. 1878; ordained priest in 1858; Bishop of New York 1887.

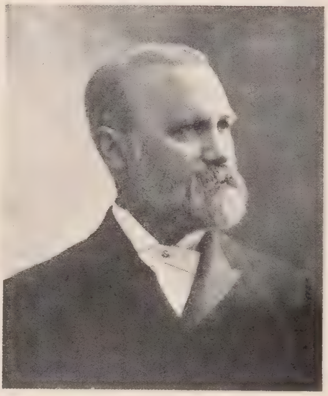
William Pepper, M.D., LL.D.

Born in Philadelphia, Pa., August 21, 1843; educated at the University of Pennsylvania, A.B. 1862; Medical Department,

WILLIAM PEPPER, M.D., LL.D.

RT. REV. HENRY CODMAN POTTER, A.M., D.D., LL.D.

GEORGE McNAUGHTON, M.D.



JOSEPH HILL HUNT, M.D.

WILLIAM HENRY WELCH, A.B., M.D.

HON. ST. CLAIR McKELWAY, A.M., LL.D.

JENNER CENTENNIAL.

M.D. 1864. He was for many years Professor of Medicine and Provost of the University of Pennsylvania; founder of the Philadelphia *Medical Times;* Medical Director Centennial Exhibition, in 1876; President of the First Pan-American Medical Congress, in 1893. His medical writings are known to every student of medicine. He was an honorary member of the Medical Society County of Kings. He died July 28, 1898.

William Henry Welch, A.B., M.D., LL.D.

Born Norfolk, Conn., April 8, 1850; graduated from Yale, A.B. 1870; College of Physicians and Surgeons, New York, M.D., LL.D.; Western Reserve, 1894; Yale, 1896; Professor of Pathology, Johns Hopkins University; President of the Congress of American Physicians and Surgeons, 1897.

Joseph Hill Hunt, B.S., M.D.

Born near the village of Huntsburg, Sussex County, N. Y., April 12, 1848; educated at Washington and Lee University, B.S. 1869, and the College of Physicians and Surgeons, New York, M.D. 1873; Professor of Botany and Materia Medica, Brooklyn College of Pharmacy; President, Brooklyn Pathological Society, 1887-88; President of the Medical Society County of Kings, 1898-99; Member of the Board of Education, Brooklyn, and the Council of the Long Island College Hospital.

Hon. St. Clair McKelway, A.M., LL.D.

Born in Columbia, Mo., his father being the late Alex. J. McKelway, A.M., M.D.; he was educated in the New Jersey State Normal School; studied law and was admitted to the bar in 1866; in 1890 he received the degree of LL.D. from Syracuse University, and in 1883 was chosen a Regent of the University of the State of New York, for life; for many years Chief Editor of the *Brooklyn Eagle.*

William Schroeder, M.D.,
Secretary Historical Committee.

TEUNIS SCHENCK, A.B., M.D.

Dr. Schenck was born in Flatbush, L. I., March 10, 1841, and died in the old town of New Utrecht, July, 1899.

His ancestry were of Holland extraction, and had filled many important positions, both in state and church. He received his early education at Erasmus Hall Academy, and later graduated at Union College, Schenectady, in 1859.

Three years subsequently, he commenced the study of medicine with Dr. Thos. Turner, then resident physician to Kings County Hospital, and later with Dr. R. Cresson Stiles, who, in the meantime, had taken Dr. Turner's place. The tutorship of these able instructors, and the clinical advantages of the hospital, gave the young student unusual facilities for acquiring medical knowledge of which he was wise enough to avail himself.

Dr. Stiles was an expert microscopist and a brilliant teacher, and for some years had regular classes in microscopy, of which Dr. Schenck was an enthusiastic member. In the meantime he attended medical lectures at the College of Physicians and Surgeons, New York, from which he received his degree of M.D., in the spring of 1865. He had already been interne in the hospital before he received his degree of M.D., and so continued till September, 1865, when Dr. Stiles resigned his position of resident physician and Dr. Schenck was appointed in his place.

He continued at the head of the Hospital Staff for seven years, when he resigned and commenced private practice in New Utrecht.

Soon after his resignation he was made one of the Consulting Staff, and so continued to the time of his death.

As a physician, Dr. Schenck was painstaking and conscientious, and in an eminent degree commanded the confidence and esteem of his patients.

Socially he was companionable and friendly, but had little time for the amenities of social life. A physician's life is too full of cares and anxieties for the good of others, and he is constantly witnessing so many scenes of pain and bereavement that he gets a distaste for the frivolities of life and becomes silent and thoughtful.

His domestic relations were most happy. In October, 1867, he married Miss Sarah Elizabeth Lott, daughter of Chas. Lott,

TEUNIS SCHENCK, M.D.

Esq., a man highly honored in the old town of New Utrecht, and a pillar in the venerable Dutch Church, who still survives him, together with two sons.

Dr. Schenck became a member of the Medical Society of the County of Kings in 1865, and so continued to the time of his death.

He was also a member of the American Medical Association, and of the Holland Society of Brooklyn.

HOMER L. BARTLETT, *M.D.*,
Chairman Historical Committee.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 475 *Franklin avenue.*

With this number the Department of Current Medical News first makes its appearance in the pages of the JOURNAL, and enters upon what it is hoped will prove a sturdy existence, replete with interest and benefit to all its readers. This column, however, cannot be complete, and will not fulfil its purpose, should the members of the profession fail to do their part in supporting it, by forwarding any material they may possess. It is utterly impossible for one pair of ears to hear all the latest doings of the medical world of our city, or for one mind to conceive of everything that would be of interest in this department, and which, therefore, should be found herein tabulated. The reader should bear in mind, moreover, that some items, which are old news or of no moment to him, may be gladly perused by others. It is purposed, also, to include here notes for record—even though they be universally known. It may be well to state, once for all, that this will be a column devoted to facts and not gossip.

At the Kings County Hospital there were recently announced the following appointments: Dr. Ralph H. Pomeroy, promoted to full Visiting Obstetrician, to fill the vacancy caused by the resignation of Dr. Dickinson; Dr. William E. Butler, Visiting Obstetrician; and Dr. Mark Manly, Assistant Physician, Department of Diseases of Children.

The right step is certainly being taken in the formation of sections of the Kings County Society. Already three are organized and well under way—sections of Ear, Nose, and Throat; Pediatrics; and Ophthalmology.

Dr. Henry P. de Forest has been appointed by Col. Austen Surgeon of the Thirteenth Regiment, with rank of Major; and Dr. James P. Warbasse, Assistant Surgeon, ranking as Captain. Dr. de Forest was formerly Assistant Surgeon of the regiment, and both saw service during the late war, being associated with Col. George R. Fowler in camp hospitals in Florida, where they contracted typhoid fever.

The Associated Physicians of Long Island held their annual dinner at the Union League Club January 27th, following the scientific meeting, forty-five members being present. Dr. Fairbairn acted as toast-master. Speeches were made by Dr. Winfield, the newly elected President; Dr. Lanehart, the retiring President; Drs. Pilcher, Hunt, William Browning, Maddren, Charles Jewett, Gibson, and McNaughton.

The President, Dr. Winfield, announces the following list of committees for the ensuing year: Executive and Scientific, Drs. J. E. Sheppard of Brooklyn, J. P. Heyner of Northport, and J. R. Taylor of Sag Harbor. Membership, A. H. Terry of Patchogue, E. D. Skinner of Mineola, and R. J. Morrison of Brooklyn. Publication, Clarence R. Hyde of Brooklyn, George K. Meynen of Jamaica, and W. H. Ross of Brentwood. Legal, James D. Trask of Astoria, W. H. Zabriskie of Glen Cove, and W. A. Baker of Islip.

Dr. J. R. Taylor is President of the County Society of Suffolk, and Dr. J. D. Trask, President of the County Society of Queens, Nassau.

The Kings County Hospital Alumni Association presented a number of talented after-dinner speakers at its annual dinner at the Argyle on February 5th, including Rev. Dr. Parker, Luke D. Stapleton, Commissioner Adolph Simis, Martin Littleton, Herbert F. Gunnison, Drs. Bristow, L. J. Morton, and the President of the Association, John R. Stivers. The officers elected for the ensuing year were: President, H. C. McLean; Vice-President, Archibald Campbell of Manhattan; Secretary and Treasurer, George K. Meynen of Jamaica; and Historian, L. J. Morton.

The annual dinner of the Long Island Medical Society was held on February 6th at the Clarendon. The President, Dr. Arthur C. Brush, presided, and the thirty-four members attending seemed to heartily enjoy the repast, music, and speeches. The toasts responded to were: "The Effect of the Dispensary Law," Dr. John O. Polak; "Shall the Society Act as a Faction in Medical Politics," Dr. Wm. Francis Campbell; "Shall We Maintain the Code of Ethics," Dr. E. E. Cornwall; "Relation of Law and Medicine," Mr. Evarts L. Prentiss; "The Specialist," Dr. H. A. Alderton.

On February 6th the profession was well represented at the dinner of the Yale Alumni Association, held at the Oxford Club, where Pres. Hadley of the University was the honored guest. Drs. Arthur Mathewson, Wm. H. B. Pratt, A. T. Bristow, William Browning, J. W. Ingalls, C. D. Napier, Wm. B. Brinsmade, J. A. Lee, Ralph Tousey, and Horace S. Stokes of Manhattan were present.

On January 31st, Dr. Thomas F. McCleary of Bedford avenue was married to Miss Philomena Freel of Clinton avenue, sister of Dr. Frank Freel.

Dr. Nathan T. Beers of Bedford avenue should receive the congratulations of his friends on the announcement of his engagement to Miss Florence Palmer, daughter of Mr. Lowell M. Palmer of Clinton avenue.

It is a sad duty to record the death on January 12th of Dr. J. E. Schroeder of Ninth street, a brother of the Secretary of the Historical Committee of the County Society; of Professor J. C. Shaw of Clinton street, Professor of Diseases of the Mind and Nervous System at the Long Island College Hospital, January 23d; also the death of Dr. T. Dana Fitzsimmons of Tenth street, who passed away on the 4th day of February.

Arthur C. Jacobson, M.D., James A. Roache, M.D., and James P. Glynn, M.D., have been appointed by Charities Commissioner Simis, at a salary of $1,200, to investigate the patients in the various hospitals of the city with reference to their being charity cases, for whose maintenance the city is financially responsible.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

ESSENTIALS OF ANATOMY. Arranged in the form of questions and answers, prepared especially for students of medicine, by Charles B. Nancrede, M.D. Sixth edition, thoroughly revised by Fred. J. Brockway, M.D. Published by W. B. Saunders, Philadelphia. Size, 5 by 7 inches. Cloth, price, $1.00 net.

Any work on anatomy which has been issued under the supervision of Dr. Brockway must be one of the best of its kind. This book, if it could be strictly limited to the use for which it is intended, would be beyond criticism. Unfortunately it is so complete that students are tempted to make use of it as a text-book, and instead of learning anatomy confine themselves, with its aid, to an attempt to simply memorize anatomical facts. From the standpoint of a teacher of anatomy we feel that all such books are to be condemned as doing infinitely more harm than good.

WILLIAM W. BROWNING.

SAUNDERS' AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. In two volumes. No increase in price. In response to a widespread demand from the Medical Profession, the publisher of the "American Year-Book of Medicine and Surgery" has decided to issue that well-known work in two volumes, Vol. I. treating of General Medicine, Vol. II. of General Surgery. Each volume will be complete in itself, and the work will be sold either separately or in sets. Price, per volume, cloth, $3.00 net; half morocco, $3.75 net.

The quantity of matter under review has become so immense that its inclusion in one volume would make a book of unwieldy proportions; but by thus dividing the matter, two volumes will be made of about 600 pages each—an ideal size for convenience of handling and reference. Each volume will be complete in itself, will be paged separately, and will have its own index.

This division is made in such a way as to appeal to physicians from a class standpoint, one volume being distinctly medical, and the other distinctly surgical. The apportionment of subjects in each volume is as follows. Medical—General Medicine, Pediatrics, Pathology, Nervous and Mental Diseases, Cutaneous Medicine, etc., Materia Medica, Physiology, Legal Medicine, Hygiene, Chemistry, etc. Surgical—General Surgery, Obstetrics, Gynecology, Orthopedic Surgery, Ophthalmology, Otology, Laryngology and Rhinology, Anatomy.

ESSENTIALS OF MEDICAL CHEMISTRY, ORGANIC AND INORGANIC. Saunders' Question Compends, No. 4. By Lawrence Wolff, M.D., Demonstrator of Chemistry, Jefferson Medical College, etc. Fifth edition, thoroughly revised by Smith Ely Jeliffe, M.D., Ph.D., Professor of Pharmacognosy, College of Pharmacy of the City of New York, etc. Philadelphia, W. B. Saunders. Price, $1.00 net.

The fact that 175,000 copies of these compends have been sold is evidence that they are regarded as helpful, and while if carelessly used to the exclusion of systematic text-books and the neglect of laboratory practise, they may be pernicious, still they undoubtedly have their proper place in medical literature.

The present edition is especially valuable by reason of the thorough and skillful manner in which the portion devoted to physiological chemistry is handled by Dr. Jelliffe.

AN ESSAY ON THE NATURE AND THE CONSEQUENCES OF ANOMALIES OF REFRACTION. By F. C. Donders, M.D., late Professor of Physiology and Ophthalmology in the University of Utrecht. Translated under the supervision of the Kirschbaum School of Languages and Bureau of Translation of Philadelphia. Revised and edited by Charles A. Oliver, A.M., M.D. (Univ. Pa.) One of the attending surgeons to the Wills' Eye Hospital; one of the Ophthalmic Surgeons to the Philadelphia Hospital, etc. With portrait and other illustrations. Philadelphia, P. Blakiston's Son & Co., 1899.

Ophthalmologists certainly owe a debt of gratitude to Oliver for having revised and edited this brochure for English readers. Donders' name, in the science of refraction, is the same as Euclid's in geometry. The writings of these great masters will ever remain above criticism. This work should not be mistaken, on account of similarity of title, for the more voluminous and widely known text-book, by the same author, "Anomalies of Accommodation and Refraction." An excellent portrait of this wise and sturdy old Dutchman adds much to the attractiveness of the book.

JAMES W. INGALLS.

THE PRINCIPLES OF TREATMENT AND THEIR APPLICATION TO THE PRACTISE OF MEDICINE. By J. Mitchell Bruce, M.D., F.R.C.P., Lecturer on the Practise of Medicine in Charing-Cross Hospital, London; Examiner in Medicine, Royal College of Physicians, London. Revised to conform with the U. S. Pharmacopœia by E. Q. Thornton, M.D., Jefferson Medical College, Philadelphia. Lea Brothers & Co., 1900. In one octavo volume of 625 pages. Cloth, $3.75 net.

The author, as a teacher, has found that while students may write prescriptions readily they cannot give a rational account of the principles on which they have planned them, and as a result they resign themselves to routine methods of treatment which they find recommended in text-books. As a clinical teacher Dr. Bruce has, both in the class-room and at tbe bed-side, directed the attention of students first and chiefly to the objects of treatment, which their study and observation of pathological and clinical facts reveal to them; and then, and not until then, he discusses the selection of medicinal and non-medicinal measures calculated to effect the desired ends. This is the plan which he has most successfully followed in his book.

Dr. Thornton has adapted the prescriptions to the United States Pharmacopœia.

A Manual of Surgical Treatment. By W. Watson Cheyne, M.B., F.R., C.S., F.R.S., Professor of Surgery in King's College, London; Surgeon to King's College Hospital, and the Children's Hospital, Paddington Green, etc., and F. F. Burghard, M.D. and M.S. (Lond.), F.R.C.S. Teacher of Practical Surgery in King's College, London; Surgeon to King's College Hospital, and the Children's Hospital, Paddington Green, etc. In six volumes. Vol. I., the Treatment of General Surgical Diseases, including Inflammation, Suppuration, Ulceration, Gangrene, Wounds and their Complications, Infective Diseases and Tumors, the Administration of Anesthetics. Lea Brothers & Co., Philadelphia and New York, 1899.

If the original design of this work is carried out it will be of value to the busy general practitioner who is more or less absorbed in the practical details of the management of such surgical conditions as fall naturally into his care, and whose time is too much taken up to permit him to occupy much of it in searching through text-books upon general surgery in which, quite properly, special stress is laid upon pathology, symptomatology, and diagnosis, for details of treatment, only too often to be disappointed. Even those who are almost constantly in contact with surgical work not infrequently feel the need of detailed information regarding methods of treatment not necessarily involving operative procedures, and only too often they must rely entirely upon experience. In the absence of experience the beginner naturally turns to the writings of those who have been more fortunate in this respect, and who have given the results of their experience to the profession in a shape to be readily utilized in the exigencies of a busy life. The endeavor on the part of the authors to put themselves in the place of those who have to treat a given case for the first time and to supply details as to treatment from the commencement to the termination of the case is most commendable. In this endeavor it must necessarily follow that the nature and diagnosis of disease receive but slight attention, and that reference to the pathology and symptoms is made only so far as is necessary to render the treatment recommended intelligible. For the same reason no attempt can be made to furnish anything like a complete summary of the various methods of treatment followed by other surgeons, since this would greatly lessen the value of the book as based upon personal experience, and tend to confuse the reader.

The forty-two pages by Dr. Silk devoted to surgical anesthesia is of extreme value, and is fully up to the present requirements of advanced surgery. This chapter constitutes a most important feature of the volume, and will well repay perusal even by skilled special anesthetists; it should be read by all who may be called upon to perform this most important part of the surgeon's work.

The work is well arranged typographically, much time and care having been evidently spent selecting proper guide-words for important points, and placing these in bold face type so as to attract the reader's attention and enable him to quickly pick out what he needs without perusing the entire paragraph, much less the page, as is only too frequently the case in the formal treatises.

George Ryerson Fowler.

The Mechanics of Surgery. Comprising Detailed Descriptions, Illustrations and Lists of Instruments, Appliances and Furniture Necessary in Modern Surgical Art. By Charles Truax. Chicago, U. S. A., 1899.

The work before us is of a rather nondescript character. It can scarcely be looked upon as an authority in the field it claims to cover, nor can it be recognized as a text-book. It has no place among works of reference, nor can it claim to be a work of a scientific nature. It is simply a voluminous compilation of the good, bad, and indifferent views held upon the subject of the selection of instruments for certain operative procedures from the standpoint of the instrument maker. To the beginner it offers an opportunity for the selection of instruments for a given operation by directing his attention to what is available for the purpose, just as any good catalogue of instruments would perform the same office for him.

What with the knowledge of many inaccuracies of statement which the perusal of this book will bring to the surgeon's mind, the resentment which is aroused by the insinuation that professional men are ignorant of the proper uses of the terms "proximal" and "distal," (see preface) and the fact that the work is the result of an attempt to imitate the enterprise of a firm of New York instrument makers who published the compilation known as the "American Armamentarium Chirurgicum" more than a decade ago, in which volume most of the information given in this work may be found, plus a price list, the "Mechanics of Surgery" is not likely to meet with a very great demand at the hands of the medical profession.

George Ryerson Fowler.

A Text-Book of Embryology. For Students of Medicine. By John Clement Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. With 190 illustrations, 26 of them in colors. pp. 405. Philadelphia, 1899, W. B. Saunders. $2.50 net.

The book is well written; the entire subject being covered, from the origin of the male and female sexual elements to the complete development of the fetus at birth. Each step is made as clear as the present state of the science will permit, and no unnecessary detail is entered into—no unsettled questions half-discussed. It represents about what should be required (in this branch) of medical students during a four-year graded course.

The illustrations have been very carefully selected and arranged; the author's object being "to employ those of greatest teaching value, and to arrange them, with reference to any one chapter, as nearly as possible in proper chronological sequence."

There are some repetitions, in the text, as well as in the illustrations, but these, the author explains, are due to the fact that "in the arrangement of the subject-matter of the book it has been the aim not only to present a connected story of human development, but also to make each chapter as nearly as possible complete in itself, for the sake of convenience of reference." The printing is excellent as regards both text and illustrations, and the intercalation of bold-faced type in the text greatly enhances the usefulness of the book. The first three chapters deal with the origin and structure of the sexual elements; the maturation, fertilization, and segmentation of the ovum, and its development through the gastrula stage; ovulation and menstruation are also incidentally treated, and at the end of Chapter III. is given a very good tabular summary of the chief derivatives of the three primary germ-layers. Chapters IV., V. and VI. describe the beginning differentiation and beginning general development of the embryo, and the formation of its appendages.

Chapter VII. deals with the development of the external form of the body, and with the formation of those embryonic structures which constitute the fundaments of the chief parts and organs of the body. Upon the proper handling of this portion of the subject depends largely the ability to make clear that which follows; and the author has well acquitted himself therein. All but two of the illustrations used in this chapter are after those of His, than which there are none better for the purpose.

The remaining eleven chapters deal with the differentiation and development of the tissues, organs and systems of the body. They are all so well written that it is difficult to select any one, two or three for especial mention. Considering, however, the complexity of the subjects, the author is to be particularly congratulated for his clear and accurate treatment of the development of the vascular, digestive and nervous systems. The "Tabulated Chronology of Development," given at the end of the book, will prove of great use to the student for review and reference.

But one suggestion occurs to the reviewer, *viz.*: The appending of a good glossary of the technical terms used in the text, with their chief synonyms.

JOHN C. CARDWELL.

TWENTIETH CENTURY PRACTICE OF MEDICINE. Vol. XVIII., Syphilis and Leprosy. William Wood & Co., New York.

Dr. E. Lang, Professor of Dermatology and Syphilology, University of Vienna, treats of "Acquired Syphilis" in the first 369 pages. The article is clear and exhaustive and will be welcomed especially by the general practitioner. A careful study of it may, perchance, decrease the errors in diagnosis, which are far from few.

Dr. Jonathan Hutchinson, of London, follows with a twenty-seven-page article on "Inherited Syphilis." It is of great value.

Dr. Prince A. Morrow, of New York, devotes 280 pages to "Leprosy." The occurrence of this disease in our midst a number of times during the past few years, and our new foreign relations will make the study of this subject something more than historically interesting. As this great system nears completion we are more and more impressed with the wisdom of the authors of the undertaking. It is a monumental record of scientific and philanthropic work.

A Treatise on Surgery. By American Authors. Edited by Roswell Park, M.D., Professor of Surgery in the University of Buffalo, N. Y. New Condensed Edition in one royal octavo volume of 1262 pages, with 625 engravings and 37 full-page plates in colors and monochrome. Cloth, $6.00 net; leather, $7.00 net. Lea Brothers & Co., Philadelphia and New York.

The treatise before us is the joint work of twenty-eight well-known American writers upon surgical topics. The present work is a condensed edition of the two-volume work of the same title by the same writers and under the same editorship which first appeared three years previously.

Surgery has made some advances in the time intervening between the appearance of the two-volume work and the present undertaking, and the enterprising editor has taken advantage of the opportunity afforded in the work of condensation to likewise accomplish more or less revision of the work wherever this was required, although, in reality, changes of this character have been few and far between. This may be taken as a compliment to the editor and writers of the original work, and furnishes striking evidence of the thoroughly up-to-date character of the original edition.

There can be no question of the desirability of the production of one-volume rather than two-volume treatises, with the greater convenience of handling and correspondingly lower price. The commercial success of a book depends upon its popularity with the profession, and the almost phenomenal success which attended the well-known single volume text-book on surgery by American authors which preceded the original edition of the present work, without doubt, had its influence in the decision to issue the book before us. It is somewhat unfortunate, however, that it was found necessary to subject the original work to the process of condensation, since here and there it is apparent that this has been done by sacrificing matters of manifest importance from the standpoint of the practical surgeon. In this respect more judgment seems to have been displayed in the elimination of comparatively useless illustrations, than of text, since, in the case of the latter the space occupied by a dozen cuts in the first one hundred pages has been saved, while, in the same number of pages eighteen have been cut out, comprising material much of which is certainly of considerable value, and all of which is decidedly useful. When one takes into consideration the high character of the book as first written, one regrets that the entire work of condensation was not confined to the elimination of all cuts and plates save those which serve to illustrate points in practical diagnosis or operative treatment. In this manner much of the three hundred and seventeen pages of text space gained could have been saved, and much of the valuable reading matter that has been sacrificed, retained. Certainly the full page plate illustrating the "alleged parasites of cancer," beautiful as it is, could have been better spared by the every-day practitioner than the practical remarks describing, somewhat in detail, the treatment of ulcers, which appear upon pages 88 and 89 of the original edition, but which are cut out of the condensed edition.

Finally, in these days of practical treatises upon the special subjects of the eye and ear, the diseases embraced within which the practitioner for whom this book is intended, is very infrequently called upon to treat, the two chapters devoted to these might have been profitably omitted altogether in the condensing process.

While one cannot help commending the book under review, it does not detract from this commendation to express the regret that all of the practical matters, at least, of the original two-volume work could not have been included within its covers.

George Ryerson Fowler.

Diseases of the Eye. A Hand-book of Ophthalmic Practice, for Students and Practitioners. By G. E. De Schweinitz, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College; Professor of Diseases of the Eye in the Philadelphia Polyclinic; Ophthalmic Surgeon to the Philadelphia Hospital. With 255 illustrations, and two chromo-lithographic plates. Third Edition, thoroughly revised. Philadelphia: W. B. Saunders, 925 Walnut street. 1899. Cloth, $4.00 net. Sheep or half morocco, $5.00 net.

It is only about two years since we had the pleasure of reviewing the Second Edition, and now the Third Edition is before us for examination. New matter has been added and some of the articles have been rewritten. Although the proof was evidently read with care, yet on p. 62 "plane convex-lines" is probably meant for "plano-convex lenses." The chapter on "Operations" has been re-written and is "up-to-date." The work is not voluminous, yet it contains the important facts needful for the ophthalmologist to know.

The two former editions were favorably received, the present edition will doubtless meet with still greater favor.

James W. Ingalls.

The Treatment of Pelvic Inflammations through the Vagina. By William R. Pryor, M.D., Professor of Gynecology, New York Polyclinic. 12mo., pp. 248; 110 illustrations. Philadelphia: W. B. Saunders, 925 Walnut Street, 1899.

In these days of surgical pyrotechnics it is refreshing to read the work of an author who places the welfare of his patient before everything else, and who, although able and willing to operate when the real necessity arises, does so as conservatively as possible, and only uses the so-called radical operations—the removal of everything in sight—when simpler methods have been given a fair trial and have been found wanting.

There exists the utmost confusion in the profession regarding the most successful methods of treating pelvic inflammations; and inasmuch as inflammatory lesions constitute the majority of all pelvic diseases, the subject is an important one. Furthermore, these cases as a rule are emergency cases. An attending physician cannot waste time in studying up an operation to be performed, nor can he always transport his patient to a distant hospital.

Of these inflammatory diseases, endometritis and salpingitis and the secondary inflammations of the pelvic peritoneum are the major subjects treated, and of each the pathology, symptomatology and treatment are described with exceptional lucidity.

In the details for the operative relief of these conditions the perspective is well maintained, and curettage, exploratory vaginal section and conservative treatment are shown in due proportions.

Were the comparatively simple procedures here given for the relief of cystic ovaries, and even of endo-ovarian hemorrhage, more commonly known and adopted by some too energetic surgeons the "spayed woman," ruefully contemplating her abdominal scar at each dressing and undressing, would cease to be so common as the last decade has threatened to make her, and the collection of ovaries whose only claim to greatness lies in the presence of a normal corpus luteum, would soon cease to adorn the shelves of museums save "to point a moral and adorn a tale."

The little volume is a model of its kind, and deserves a place beside Morris' "How We Treat Wounds To-day," Jewett's "Essentials of Obstetrics," and a few others, as an excellent example of the possibility of concise, brilliant and accurate medical literature.

THE GROSS AND MINUTE ANATOMY OF THE CENTRAL NERVOUS SYSTEM. By H. C. Gordinier, A.M., M.D., Professor of Physiology and of the Anatomy of the Nervous System in the Albany Medical College; Member American Neurological Association. With 48 full-page plates and 213 other illustrations, many of which are printed in colors, a large number being from original sources. Octavo. Price, net, $6.00 Cloth, $7.00 Sheep. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa.

This work brings within the covers of a single volume so much of what is at present known of the embryology, histology and gross anatomy of the cerebrospinal axis as will meet the demands of the undergraduate student and general practitioner. It contains chapters also on cerebral localization and methods of staining. The would-be neurologist must pursue his studies beyond its limits.

The subject is presented in a clear, concise and readable style, and the illustrations are well selected, demonstrating the author's ability as a teacher, but the book bears evidence of being a compilation rather than the result of original research. If we were to venture a criticism it would be that theories not fully accepted are advanced as if undisputed and that sufficient care had not been exercised in crediting investigators with the results of their labors.

In the mechanical department the publishers have fully met the æsthetic demands of the age. William W. Browning.

A Text-Book of Materia Medica Therapeutics and Pharmacology. By George Frank Butler, Ph.G., M.D. Third edition, thoroughly revised. W. B. Saunders, Philadelphia, 1899. Cloth, $4.

Capital book! The important changes made in this edition have increased its value, already great.

A Text-Book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL.D. Third edition, revised. W. B. Saunders, Philadelphia, 1899. Cloth, $5.50. Illustrated.

We have had occasion to commend this book. We are not surprised to find it in great demand. A number of changes have been made, which will add to the attractiveness and value of the volume.

Essentials of Physical Diagnosis of the Thorax. By Arthur M. Corwin, A.M., M.D. Third edition, revised and enlarged. Cloth, $1.25. W. B. Saunders, Philadelphia, 1899.

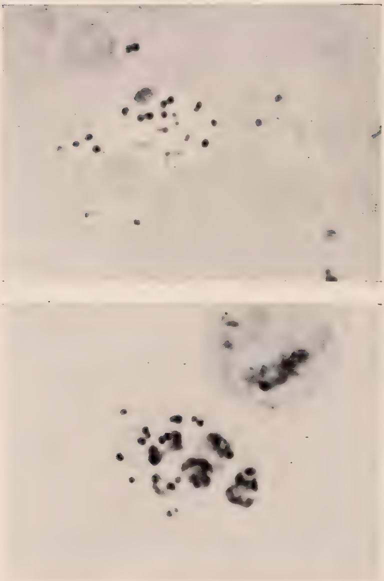
This ready reference book is very welcome. It is exact. Its copious index renders its contents quickly accessible. We predict many more editions.

The Abdominal Brain and Automatic Visceral Ganglia. By Byron Robinson, B.S., M.D. The Clinic Publishing Co., Chicago, 1899.

This work is devoted to an investigation of the influence of the abdominal sympathetic nerves upon the animal economy. Opening with a chapter on the history of the developmental knowledge of the sympathetic nerves, the author proceeds to classify the diseases which belong to the system. He considers the origin of such diseases and their treatment. The physiological premises on which he bases the latter are very interesting. It is a thoughtful and careful study.

The Trained Nurses' Directory. Compiled and edited by M. Louise Longeway. Sixth edition. Published annually, in November. Addenda issued in June. Annual subscription, $1.

In this directory will be found a list of nurses who are graduates of training schools, giving a two, or more, years' training in general hospitals of not less than one hundred beds, who have had one year additional training in private duty, and, moreover, who are recommended by prominent physicians and surgeons. There are obstetrical and other tables which will be of use for ready reference.



DIPLOCOCCUS INTRACELLULARIS MENINGITIDIS.

Presented by Jerome B. Thomas, Jr., M.D.

BROOKLYN PATHOLOGICAL SOCIETY.

408th Stated Meeting, Thursday, November 9, 1899.

(Continued.)

The Pathology of the Common Communion Cup.

Page.

"The Subject as Viewed by the General Practitioner." **209**
Edgar A. Day, M.D.

"The Relation of the Subject to Tubercular Infection." **214**
Hon. George W. Brush, M.D.

"The Subject as Viewed by the Dentist."............... **216**
E. Howard Babcock, M.D., D.D.S.

"The Subject as Viewed by the Aurist."................ **220**
J. E. Sheppard, A.B., M.D.

"The Subject as Viewed by the Syphilographer."....... **222**
James McF. Winfield, M.D.

"The Subject as Viewed by the Bacteriologist."........ **223**
Henry P. de Forest, Ph.B., M.S., M.D.

"The Subject as Viewed by the Surgeon.".............. **226**
James P. Warbasse, M.D.

"The Subject as Viewed by the Minister.".............. **230**
Rev. Robert J. Kent, D.D.
Rev. Albert C. Bunn, M.D., D.D.

The Subject as Viewed by the General Practitioner.

Edgar A. Day, M.D.

A few weeks ago the speaker was appointed chairman of a committee to consider the advisability of adopting individual communion cups for service in his church. At about the same time he was reminded by our secretary that he was chairman of the committee responsible for the program of our present meeting. The concurrence of these two events led to the selection of "The Pathology of the Common Communion Cup" as a topic for our consideration to-night.

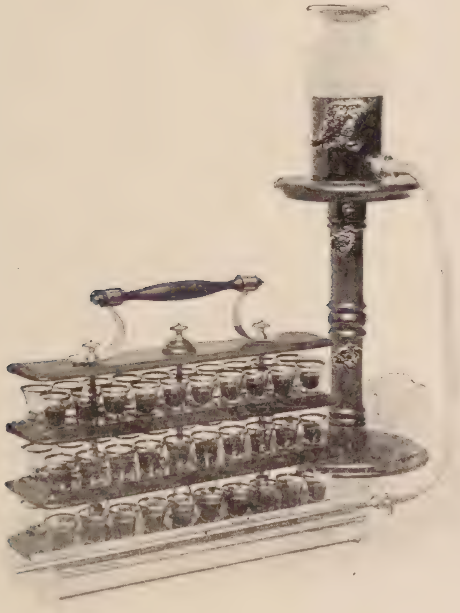
Notwithstanding the fact that libraries have been written on sanitary science, we find but little in medical literature bearing directly upon the subject we have in hand.

From the fact that several physicians have expressed a fear lest some ugly fact should get abroad from this meeting and do violence to the sacramental service and injury to the church, I surmise that this absence of literature may be due to the hesitation on the part of pathological investigators to reveal facts that condemn a custom divinely founded and for eighteen hundred years surrounded by the tenderest and most sacred associations. This is an erroneous view. A generation or more ago science loomed up before the world apparently as a mighty foe to religion. To-day she is recognized as her most helpful friend, and those who are now forming and shaping religious thought are hastening to conform the doctrines and practises of the church to the truth in so far as it has been established by scientific research. So will it be with the service of the communion cup. If science proves it to be a menace to public health, the fact should be proclaimed with no uncertain sound. The church recognizes that it must stand foremost for all that is clean and pure and wholesome.

Indeed the question of individual *versus* common communion cups is already agitating the church in all directions and is being warmly discussed in our religious press.

The growth and popularization of sanitary science and the widespread promulgation of sanitary laws and regulations, such as the quarantine and compulsory vaccination laws, the laws prohibiting expectoration in public places, and the law abolishing common drinking cups from our public schools and parks, have educated the great body of intelligent Christians to be familiar with the dangers of germ infection and apprehensive of their evil effects. These things, together with that spirit of refinement which prevails among Christian people and which, aside from all fear, leads them to refrain from the use of drinking vessels in common even in their own homes, have led many devout Christians either to decline the common communion cup altogether or to partake of it with fear and disgust. Thus it is coming to pass that the sacrament of the Lord's Supper is becoming to many a stumbling block rather than a stepping stone. It is therefore apparent that to perpetuate the Lord's Supper some method must be devised by which the wine may be administered more in accordance with the requirements of modern refinement and modern sanitation.

That we may know what progress has been made in this direction, I have brought to you several appliances devised by different firms to facilitate the distribution of communion wine by means of individual cups.*



I have also secured a list of four hundred and twenty churches located throughout the United States which are now using individual communion cups supplied by one firm alone, and I have reason to believe that from six hundred to one thousand churches are at this time using individual cups at their communion services.

I offer these introductory remarks not for the purpose of guiding the discussion along religious lines, but rather to induce those who shall follow me to discuss the topic faithfully from a scientific standpoint and to shed, without reserve, all light that can be brought to bear upon this important subject.

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* See illustrations and footnote.

Of all the diseases that may be transmitted by means of the common communion cup none is perhaps more liable to be communicated in this way than diphtheria. In this malady the infecting micro-organism, the Klebs-Loeffler bacillus or bacillus of diphtheria, gains its entrance into the system almost invariably by the mouth.

We naturally regard a person infected with the germs of diphtheria as being too sick to attend a communion service, but such is by no means always true, if indeed it is usually the case.

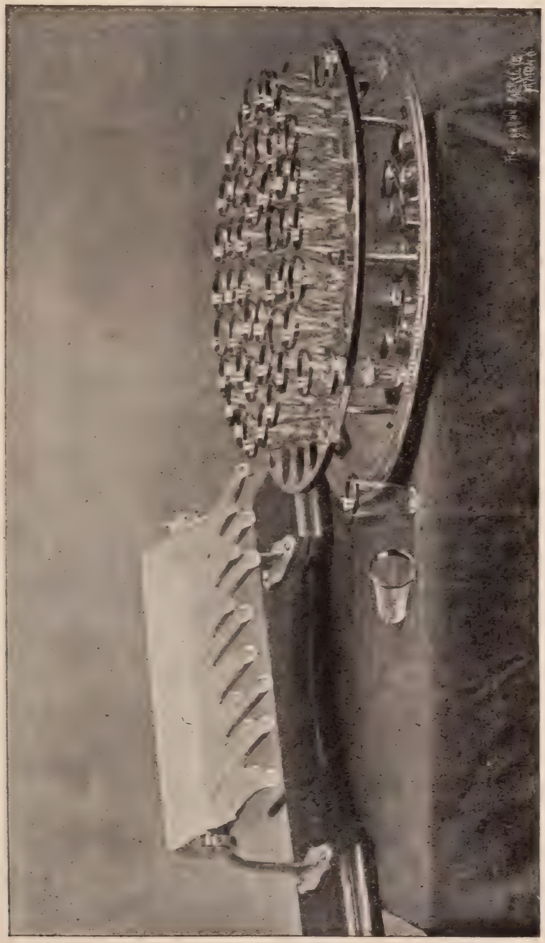
It has been demonstrated by the Philadelphia health authorities that in diphtheritic patients the bacilli persisted in the mouths, on an average, twenty-nine days, and in one case for one hundred and twelve days. I recall one case of my own whose mouth was infected for weeks after he had fully regained his strength. This boy might readily have attended church and partaken of communion had I not taken the precaution to make cultures from his throat from time to time until he was proven to be germ free.

In fact, it has been frequently and conclusively proven that the bacilli of diphtheria are carried about in the mouths of perfectly healthy people. Dr. Wilson relates the case of a nurse, who, all unconsciously, left a trail of diphtheria through this city. At last she was apprehended, and a culture made from her throat was found to be of such virulency that when injected beneath the skin of a guinea pig it killed the animal in twenty-four hours.

Quite *apropos* in this connection, was the discovery made a year or two since by our health authorities that diphtheria was being widely disseminated among our school children by means of the slates and slate-pencils supplied by the board of education. These were successively smeared with germ-laden saliva as they were indiscriminately distributed and redistributed among the pupils from day to day. At once slates and pencils were banished from our schools.

Scarcely second in the list of germs that are liable to vitiate the common communion cup is the bacillus of influenza. La Grippe and her congeners have been taken from the class of diseases that were supposed to spread by some mysterious miasm, and are now known to be passed from man to man, and mouth to mouth.

Pneumonia must in like manner claim our attention with its etiological factor, the *micrococcus lanceolatus*. Our bacteriologists tell us that the pneumonic germ infects the mouths of from fifteen to twenty per cent. of people in health and of all who are suffering or convalescing from the disease. It certainly is far from reassuring to know that every fifth one of our fellow communicants is prepared to pass to us with the cup germs that will develop this dread disease, if it so happen that the battle goes to the "bug."



Then there must come before us for consideration the various staphylococci and streptococci which stand in a causative relation to the suppurative and septic infections. Among these are boils, abscesses, phlegmons, pharyngitis, tonsillitis, anginas of scarlet, fever, measles and diphtheria, pericarditis, acute ulcerative endocarditis, pleuritis, synovitis, erysipelas, meningitis and peritonitis.

There are few of us who have not seen direful, if not fatal results following the most trivial wounds, the prick of a pin or the bite of an insect, and it requires no stretch of imagination to conceive of the transmission, by the common communion cup, of the most virulent infections from the lips of a healthful person of high resisting power or with no avenue of infection open, to one whose resisting power is feeble and whose chapped or abraded lips offer an easy portal of infection.

Time will not permit me to speak in detail of mumps, chickenpox, whooping-cough, measles, scarlet fever, smallpox, anthrax, tetanus, and other diseases alike transmissible by the common cup, for I must give place to those who are to follow me and whose opinions we are eager to hear.

659 Putnam avenue.

The Relation of the Subject to Tubercular Infection.

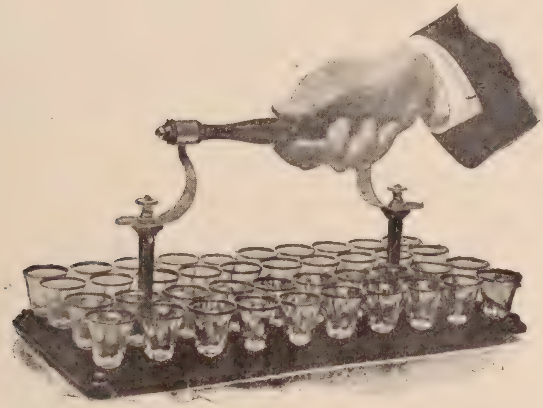
Hon. George W. Brush, M.D.

Safety for the individual sometimes compels us to set aside sentiment, and change long-standing customs, even in such an important matter as the administration of one of the most sacred rites of the Christian Church. It is certainly distasteful, and revolting to many, even though they know little of the germ theory of disease, to drink from a cup which has previously been offered to fifty or a hundred others, young and old, diseased and healthy, and from all walks of life. What must it be when the thought arises that possibly death lurks in that cup in one of its most insidious forms; that possibly there is left by the lips of your neighbor the germs of an infectious disease.

One of the most dangerous of the diseases thus transmissible is tuberculosis. I need not occupy the valuable time of the gentlemen of your society by undertaking to prove to them that this is a real danger. They will all admit, I doubt not, that danger lurks in the fluids of the mouth of a tuberculous person: that upon the edge of every cup from which such a person drinks there may be left the germs of the dread disease to be taken up by those sitting next such diseased person who drink from the same cup.

I will, however, call attention to a recent report of the State Board of Health of Michigan, sent to the New York State Board of Health. This report tells of the death from tuberculosis of twenty clerks employed in one of the departments. They had contracted the disease by handling old records. It was discovered that the volumes which these clerks had been handling were full of tubercle bacilli, and it was decided that the men had become diseased through use of the infected volumes. Careful inquiry disclosed the fact that a consumptive had been employed in the place and that he had the habit of moistening his fingers in his mouth before turning the pages of the books with them. These finger-marks were found upon the pages, and contained numerous tubercle bacilli.

I give this as one of the proofs of this danger; numerous others similar could be cited. Now imagine a tuberculous person sitting next another in church, and that other in a susceptible condition, all unconscious of the danger; both devoutly take the wine from the same cup, and the mischief is done; another victim perchance is added to the thirteen thousand annual deaths from tuberculosis in this state. (See annual report of the State Board of Health of New York State for 1897.)



The difficulty which confronts the physician in advocating a change in this rite of the church is custom, and the long standing of the present conditions, with a certain amount of reverence surrounding it, added to the difficulty of finding a substitute method which will not do violence to the feelings of the worshipers.

There is also a skeptical feeling or attitude on the part of many, and the average layman is apt to think the doctor is over fastidious, or a crank to ruthlessly step in and overturn a long-standing method around which cluster so many hallowed associations and sacred memories; but as soon as people are convinced of the truth and realize the danger, a proper substitute will be found, either in the individual cup, or some equally good substitute and nobody's feelings will be seriously hurt.

We cannot be too earnest in our advocacy of any method which will limit the dreadful scourge tuberculosis, and it is the duty of the medical profession to pour all the light upon the subject it can. The people are beginning to wake up to the dangers from this disease, and are beginning to ask the question whether it is not possible in some practical way to check a disease which destroys over one hundred thousand lives annually in these United States.

I am glad to add my mite to help along the work and I trust the Pathological Society of Brooklyn will make its influence felt in bringing about a speedy change in the present method of administering the communion in our churches, so that many who now refrain from taking the wine may do so with cleanliness and safety.

2 Spencer Place.

The Subject as Viewed by the Dentist.

E. Howard Babcock, M.D., D.D.S.

I was very glad to be asked to speak on this subject, because it is one that has interested me personally for about five or six years. Prior to that, being a communicant, I had always felt a natural repugnance when I came to the portion of the service in question. This feeling seemed positively sacrilegious, yet I could not overcome the aversion. In 1895 I communicated with quite a number of clergymen, as well as physicians, in Rochester, Philadelphia and other cities, and after the remarks I wish to make here I shall read a few of their replies as they will probably prove interesting.

The dentist probably more carefully than any other person, excepting perhaps the throat specialist, examines the mouth. I think the general practitioner may look at the tongue frequently, but he does not look much further. The dentist opens the mouth, he notices the tongue; it is very frequently coated; in some cases it is perfectly clear. Next he notices the tonsils, not always, but a great many times; in a great many cases they are edematous and great masses of caseous exudate are coming from them; the whole pharynx is often inflamed. As to the teeth, some are carious; in instances where the nerve has died under a filling, an abscess may exist. Then as to the question of tartar. There are two varieties: first, the tartar coming from the precipitation of the saliva; and, second, the tartar supposed to come from the blood and deposited around the teeth in the alveolar sockets very similarly to the deposit in rheumatism and gout in the joints. One phase of this latter is commonly known as Rigg's disease, that stage of the disease where suppuration exists; in this condition are found streptococci and staphylococci and all the other pus-forming germs. In the mouth we have heat and moisture, and the food that is taken in by the mouth, three conditions favorable to germ growth—and with the presence of bacteria, as is admitted by every pathologist, you have a wide avenue for their entrance and every facility for their rapid multiplication. I believe Miller of Berlin claims to have found over one hundred distinct varieties; probably of that number only a few were pathogenic. Those of tuberculosis, diphtheria and anthrax and syphilis are the ones that are most important, and to my mind it is the tubercular that appeals to all of us. Dentists recognize this danger and have recognized it for years. They use sterile instruments, and protect the patient's mouth by doing their operations with the aid of antiseptics. At the present time patients expect and demand scrupulous cleanliness, having been educated up to it. The dentist of the old school who wipes his instruments on the sleeve or lapel of his coat and throws pieces of cotton about the room will soon be without patients; the dentist has educated his patients up to this standard and they appreciate it and hold him up to it.

Now the question is whether physicians should not further carry on this work of education. The Boards of Health, as Dr. Day has said, have already instituted ordinances with reference to expectoration; they have made rules in the public schools concerning drinking cups, slates and slate pencils—why should they not go on and step into the churches and say the health of the people must not be menaced by the common communion cup. The objection has been raised that it is contrary to the custom and is considered sacrilegious. If any of you will take the trouble to look at the picture of the Lord's Supper as painted by Da Vinci you will see there were eleven or twelve cups there, not merely one. At the present time multiplication of the number is greatly desired until one cup shall be in the hands of each communicant.

The average church, excepting the Episcopal churches, have from ten to twenty communion cups. Episcopal churches have fewer, generally two or three.

My claim has been that while it may be possibly well enough for adults having full knowledge of the danger, to persist in the use of the common cummunion cup, it is absolutely wrong for a clergyman or anyone else to invite the young to attend communion and partake from a cup in which they might obtain the seeds of disease which would develop later on.

On March 21st, 1895, I wrote to a number of clergymen the following note:

"I understand your church is one of those that have adopted the method of celebrating the Holy Communion without the common cup. May I trouble you to let me know whether you have adopted the individual cup or some other plan; also how the members of your congregation were induced to accept the change? I am much interested in the subject and shall be very thankful for any information you may be pleased to give me."

From the Eighteenth Street Methodist Church of Philadelphia, on March 22nd, 1895, I received this letter:

"The Eighteenth Street Church adopted the individual cup. The official board, after consultation, decided that it would be desirable to make the proposed change. The members of the church generally adopted the method, some few dissenting. Satisfaction at the new way has increased at each communion service; some few still refuse to commune. C. E. A., Pastor."

On the 23rd of March I received this from the Bethlehem Presbyterian Church:

"We have adopted the individual cups and procured our outfits from Dr. Forbes. I prepared a paper and read it to the congregation and after doing so a universal demand came for a change and the individual cup was adopted."

"B. L. A., Pastor."

From the Fourth Baptist Church of Philadelphia I received this letter on March 27th, 1895:

"Yours of 21st received. We voted to introduce the individual cups and have used them since last October with entire satisfaction to the majority at least. I believe if any church were to adopt this method of celebrating the Lord's Supper they will never go back to the old, unsatisfactory and unwholesome use of one or a few cups."

That letter was received in 1895. I wrote to the same gentleman the year following and he said:

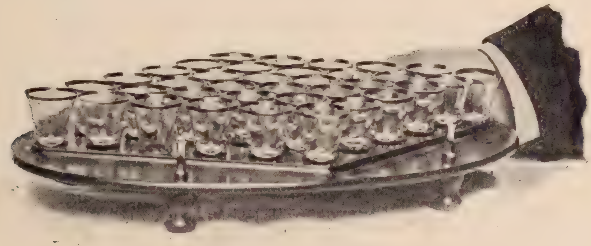
"Our church has continued to use the individual cup at the communion service with entire satisfaction. I do not believe the suggestion to return to the old methods of using several cups would be entertained by us for a moment. We have discovered no disadvantage, but many advantages in its use.

"Yours truly, J. B. G. P., Pastor.

Dr. Howard S. Anders, of Philadelphia, sent me a short pamphlet which he had read in September, 1894. This paper states:

"To Dr. Charles Forbes, of Rochester, N. Y., we are indebted for having first investigated scientifically the dangers lurking in the communion chalice, detected them, and then designed suitable means for obviating them.

"Dr. Forbes found in the dregs of a common cup contamination from two sources, *viz.*—the mouth and the clothing: from the former, epithelial cells, bacilli spores, various bacteria and mucus; from the latter, fibrous material. Control experiments showed the unused wine to be practically sterile. He referred also as illustrating by analogy, to an epidemic of diphtheria which occurred recently among twenty-four families of Rochester, and the origin of which was traced to a common drinking cup which all of the children had used. The bacilli of Loeffler were found in great numbers in the wipings from the cup's rim. Again a fatal epidemic of the same disease in San José, California, was traced to a common communion chalice contaminated by a man sick with the malady in its early stage.



"About June 1st of the present year (1894) in the laboratory of the Medico-Chirurgical Hospital, with the kind aid of Dr. C. L. Forbush, I completed a bacteriological examination of the dregs from an ordinary communion chalice used by many communicants at a service in the Fourth Baptist Church of this city. Five slides were prepared from agar-agar cultures, the specimens stained after the Ziehl-Nielsen method, and in two preparations the tubercle bacilli were found. Other preparations made from sterile bouillon media revealed pus staphylococci. Microscopical examination of the dregs direct showed numerous pus cells and an abundance of pavement epithelium, along with the ovoid purplish cells of the grape."

At that time there were two churches in Brooklyn that had made the change. One was the Lee Avenue Congregational Church and the other was the Ross Street Presbyterian Church. I went to the Lee Avenue and met the Rev. John Britton Clark and asked him about it. He was enthusiastic, saying he could not get that congregation to go back to the old unsanitary method under any circumstances. I communed with them, and must admit that the pleasure and satisfaction of communing in that cleanly way was an experience I never had had before.

I presented the question to the governing body of one of the Presbyterian churches in this city two or three years ago, but it was tabled. I had conferences with a number of clergymen in the Episcopal church as well as the other churches, and while they agreed with my argument they did not exactly want to make any change. I made up my mind one could not accomplish anything by beginning at the top, that the only way would be to educate the people, through the press and otherwise, so I began in a quiet way by trying to educate my patients; I talked to this one and to that one; I did not drag it in head and heels, but when there was a fair chance I spoke about it. I remember one young lady said, "Yes, I always feel a little unpleasant about it, but, you know, I sit well up in front where the cup comes to me first." I said, "Isn't that rather selfish? If there is danger for some one further back than you why should not you take some stand against the custom." That was about the idea of many—they did not like to take the initiative.

140 Remsen Street.

The Subject as Viewed by the Aurist.

J. E. Sheppard, A.B., M.D.

It seems hardly necessary that I should speak upon this subject strictly from the standpoint of the aurist. As we know all germs gaining entrance at the mouth and producing inflammatory affections of the pharynx may by extension of the process invade the Eustachian tubes and thus impair or even destroy the hearing. This danger is not fanciful but is, in fact, the source of a large proportion of ear troubles.

The mouth as an avenue of infection has been very thoroughly dwelt upon by those who have preceded me in the discussion, and I would but emphasize the dangers which they have set forth as arising from germ infection of this cavity.

It seems to me if this discussion is confined to the medical aspect of the case there is but one side to it, for probably every medical man would say at once that the individual cup was the only proper way of distributing the communion wine.

The pathology of the common cup has certainly been presented to us to-night in a very proper form, and should send us home thoroughly imbued with the idea, if we were not so when we came here, that we ought, each one of us, to become a missionary on behalf of the adoption of the individual as contrasted with the common communion cup. I really have nothing to say on the question of the pathology of the common communion cup. Since the doctor spoke to me about it I have taken the trouble to speak with a number of people on the subject in a general way. I met, among others, a lady whose home since 1861 has been in one of the Hawaiian Islands, who said she and her husband were always served first with the cup, but had they not been, with the class of people who partook of the cup there, neither one of them would have been willing to touch it under any circumstances. I fancy there are plenty of other congregations in remote districts and perhaps in some not so remote where every one of us would feel the same way. There was not an exception among those with whom I spoke on the subject, as regards the feeling that they were very glad always to be near the front of the church. That is the universal feeling, and I think the adoption of the individual cup is not a question of the very remote future. It can be rather readily brought about if the medical profession speaks with a united voice on this subject. Our ministers have not thought much upon the subject; perhaps they have not had it brought to them as vividly as some of us have who have been seated in the back part of the church, because they usually get the first chance at the cup. I have spoken to two or three ministers on the subject and they said they had not thought very much about it and at first blush they would feel, from the sentimental aspect at least, that it would take away somewhat from the solemnity of the service, but after a few minutes conversation with them I think they almost as a unit agreed that it was a subject which might well be considered, and one went so far as to say that he wanted to see me after this discussion had taken place, and if I could say to him that it was the sentiment of such an organization as this, he would be very glad to at once stir up the subject in his church. I believe that every one of us can do a very great deal in that line without much effort and I do not believe it need necessarily be a great while before the individual communion cup shall be the common method of celebrating this sacrament.

135 Clinton Street.

The Subject as Viewed by the Syphilographer.

James McF. Winfield, M.D.

Dr. Winfield related some histories of extra-genital chancre illustrating the ease with which syphilis could be acquired innocently. He remarked, in part, that the trend of modern medicine was to prevent rather than to cure disease, and while physicians were awake to this fact, the laity were ignorant of many of the rules of hygiene.

He also said that physicians and all other public teachers should educate the people to aid them in controling the spread of disease.

1273 Bedford Avenue.

DISCUSSION.

Edgar A. Day: This discussion would certainly be incomplete without a clear presentation of the danger in the use of the common cup as it pertains to the spread of that disease, which is ever "visiting the iniquity of the fathers upon the children unto the third and fourth generation."

If we take a broad view of the subject considering the church as it exists in all lands and among all classes of society we must realize that syphilis plays no small part in the contamination of the common communion cup. Not infrequently the cup comes in contact with the lips of the libertine; far more frequently it touches the lips of the innocent and perhaps all unconscious victim of the disease.

I am unable to present to you any well authenticated cases of syphilis acquired through the medium of the communion cup. This absence of cases from medical literature we cannot, however, believe safely argues against their existence when we realize how many cases acquired in precisely analogous ways are detailed in our books and how many like cases have come under our own personal observation.

Bulkley,[1] in his excellent work on "Syphilis in the Innocent," demonstrates that of all cases of extra-genital chancres nearly forty per cent. occur on the lips or within the mouth. Couple with this the fact that nearly all syphilitics have for a considerable length of time mucous patches in their mouths that are quite as liable to propagate the disease as are the original lesions themselves, and we certainly have reason to believe that the common communion cup in the hands of syphilitics, whether licentious or innocent, is a dangerous thing.

Analogous to the transmission of syphilis by means of the communion cup, Bulkley, in his work to which I have referred, details many cases, and even epidemics, of syphilis transmitted by means of the spoons, knives, forks, cups, glasses, jugs, tobacco pipes (mouth to mouth), cigars (mouth to mouth), cigars (infected by maker, it being a common practise of cigar-makers to moisten the covers with their saliva in order to make them adhere), tooth brushes, pins, kissing, glassblower's pipes, assayers' blowpipes, musicians' wind instruments, conductors' whistles, servants' speaking tubes, cooks' tasting spoons, upholsterers' and carpet-layers' tacks, shoemakers' pegs, clerks' pens and pencils, nipples and nursing bottles in lactation, dental instruments and tongue spatulas.

The Subject as Viewed by the Bacteriologist.

Henry P. de Forest, Ph.B., M.S., M.D.

Mr. President, I quite agree with the statement already made that one of the most satisfactory ways in which this subject can be brought before the non-medical mind is by general education along the line of bacteriological research. It occurred to me that, inasmuch as there might be some here this evening who are not members of the medical profession, this little book,[2] with which our medical friends are all familiar, might prove of interest. It is the volume of Prudden's entitled, "The Story of the Bacteria," which states in a simple and interesting way the story of the bacteria and exactly what bacterial infection means.

Dr. Babcock has made reference to another book[3] which has been written by a German named Miller and which is devoted exclusively to the micro-organisms found in the cavity of the mouth. This book is devoted simply to this one topic, and is a volume of nearly 500 pages. The number of bacteria which he found as the result of long study and of original research was far greater than even those of us who do laboratory work had any reason to believe existed. This volume, too, I have brought as illustrating the work, and as three editions have been issued, the demand for this particular work must be considerable. Taking the mass of facts as they appear in such a classic monograph as this of Dr. Miller's, we must fully appreciate the importance of the subject. Not to read over this rather extensive list, it simply is necessary to note that the number of individual bacteria described is very considerable, about a hundred. The most important of these, in so far as they are under favorable conditions the direct cause of disease, are the following:

Micrococcus of sputum septicemia.
Bacillus crassus sputiginus.
Micrococcus tetragenous.
Bacillus salivarius septicus.
Micrococcus gingivæ pyogenes.
Bacterium gingivæ pyogenes.
Bacillus dentalis viridans.
Bacillus pulpæ pyogenes.
The pyogenic micrococci.
Pneumococcus (of pneumonia).
Bacillus saprogenes.
Staphylococcus salivarius pyogenes.
Coccus salivarius septicus.
Micrococcus Biskra (Heidenreich).
Bacillus tussis convulsivæ (Afanassiew).
Bacillus bronchitidis putridæ (putrid bronchitis).
M— and b— bacteria of Galippe (pyorrhea alveolaris).
Bacillus buccalis septicus.
Bacillus influenzæ (La Grippe).
Bacillus tuberculosis (consumption).

These are the most common forms of pathogenic micro-organisms which are found in the mouth, but besides these there are a number of other allied forms each of which may under favorable conditions give rise to distinct pathologic processes.

In this latter group may be mentioned the ray fungus giving rise to actinomycosis; the saccharomyces albicans giving rise to fermentative processes; the bacillus of syphilis whenever mucous patches exist in the mouth; the bacilli of typhoid fever, of diphtheria in phagedenic ulceration of the mouth, of epidemic stomatitis, of infectious parotiditis and a host of others of lesser pathologic import.

Several of the diseases which he found were conveyed by the use of dental instruments, for Dr. Miller is a dentist, and was led to this study by his dental work. Tuberculosis has been alluded to and so also have diphtheria, influenza and syphilis. There are one or two others with which we are not as familiar as is Dr. Miller, but it would appear from his investigations that the decay of the teeth is itself caused by distinct micro-organisms which have the power of acting directly upon the dentine of the tooth and causing its disintegration.

There is still another disease which has not been mentioned, in which I personally feel more interest than in some that have been mentioned. I refer to typhoid fever. There is a very considerable discussion in this book of Miller's upon typhoid bacilli which he was able to discover in the sputum of the mouth of apparently healthy persons, and there is little doubt that, as was the case in so many of our army camps last summer, the disease was communicated not merely by drinking water—for in most of the camps the drinking water came from artesian wells and was free from any suspicion of infection so far as the bacilli were concerned—but by other carriers of infection, flies, particles of food, and by the utensils which were used by the men for eating and drinking, which in so many places it was impossible to thoroughly disinfect. Therefore if the communion cup be not disinfected from time to time—and it is fair to suppose it is not in most instances—should such a cup become infected with any of these disease germs which we have mentioned they might remain there for an indefinite period, and, in some instances at any rate, lay the foundations for disease in other persons in whom susceptibility existed.

There are a number of ways in which the bacteria once having gained entrance into the mouth can act upon the general system. The entrance through wounds has been mentioned by one of the speakers, but it is to be remembered that there are other avenues of infection. The cavity of a decayed tooth, lessened power of resistance, the inhalation of these germs into the lungs or their access to the stomach along with particles of food—all of these must be borne in mind as common avenues; we must also remember that there are certain other diseases with whose etiology we are not at the present time thoroughly familiar; scarlet fever, infectious parotiditis or mumps, the infection traveling along the Eustachian tube and causing trouble with the ear; all of these probably can be transmitted upon utensils which are carried from the mouth of the infected person, even if the infected person be himself quite well; that is if the germs exist in the mouth of a person not susceptible to the disease they may be transmitted to a susceptible individual and there set up an inflammatory process, through the person serving as the real source of the infection may remain unaffected by the micro-organisms which exist in his mouth.

There are, of course, among the younger children certain classes of disease which are not truly bacterial in origin, such as sprue and thrush and those diseases of the mouth and mucous membrane which arise largely from the lower forms of fungi; those also should be borne in mind. We must not imagine that this danger is purely a fiction, for in the little book of Dr. Prudden's in a plain and simple way, and in the larger medical textbooks, the same facts in the more technical language of the laboratory, it is stated that even a single bacillus introduced into the mouth where the conditions of temperature, of moisture and of abundant food for growth of this bacillus are present, if nothing occurs to interrupt the development of that particular germ the direct progeny would be something enormous in the course of a very short period of time.

369 Hancock Street.

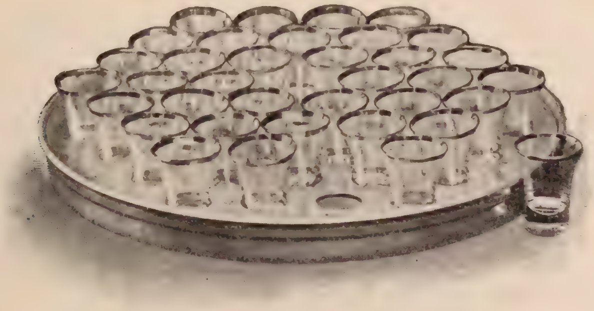
The Subject as Viewed by the Surgeon.

James P. Warbasse, M.D.

It is a very encouraging sign to see the familiarity evidenced by the medical profession with this subject of communion. That there are dangers in the use of a common cup, no voice has denied. We find a similar practise in the loving cup of the early Methodist Church, and, indeed, in the congenial cup which is passed about among friends on some occasions. Gentlemen of close acquaintanceship might observe: "What are a few bacteria among friends;" but I am sure we have had brought to our attention to-night in the very excellent discussion which has taken place, the real scientific side of this question, and I will take this opportunity to congratulate Dr. Day, the chairman of the section, upon the excellent material which he has presented to us to-night.

Unfortunately we have had related no actual instance of infection which can be directly traced to this alleged source of danger. That there are such cases we all believe and it would certainly have added very much to our knowledge of the subject and would put us in a very much better position to discuss the subject from a practical point of view if we had had presented some authentic report of infection. We have had mentioned in the papers which have been presented infections which may be very closely allied to infection from the communion cup, but no actual cases from this source.

Recently a clergyman's wife came to visit a medical friend of mine. He found her to be suffering from a sore lip which proved to be a primary chancre. Her husband had been complaining a long time of having a sore throat, for the relief of which he had sought no medical advice. My colleague requested an audience with the husband and discovered syphilitic disease of his throat and the relics of a chancre on the tonsil, and upon closer inquiry learned that this clergyman had crossed the ocean from Europe on a crowded vessel and shared his cabin with two other men. They used the same drinking vessel in their cabin. He did not become closely acquainted with these men except to know that they were rather sporty, but it satisfied my friend that the disease had been contracted from the cup which had been used in this cabin.



A physician of large experience and a very keen observer, living across the river, related to me a recent experience. This doctor attended church and had the scientific pleasure and moral misfortune to see a patient of his, a man suffering from mucous patches of the throat, partake of communion from the common cup and my friend saw the cup passed to other individuals afterwards. The horror of this situation, even without the report of authentic cases of contamination, certainly appeals to us.

I have recently been told that it has been the practise for many years in certain of our Protestant Episcopal Churches to wipe off the cup after each communicant has partaken; the clergyman wipes off the cup with a clean linen cloth. This was practised four years ago in St. Luke's Church in this town, and also within the last year in St. James' Church. These facts illustrate the awakening of the clergy to the scientific aspect of the pathology of the communion cup. That the individual cup is the coming method of administering the sacrament we all believe, and the question arises, How shall this end be best attained? It will be attained as all reforms are attained, by a matter of slow and general education; by scientific truths being brought out in such societies as this and the knowledge of these things being brought to the attention of the clergy and the public, and the time shall come, let us hope, when an individual cup may be passed to each communicant, and he may partake and have no fear of contracting any contagious disease from his neighbor.

68 Greene Avenue.

DISCUSSION.

William W. Laing: That Dr. Warbasse has mentioned the fact that no one here to-night has been able to cite a case of recognized and traced infection from the communion cup, is my excuse for adding to the discussion, already long. The only allusion to any case of the kind that I know of in literature is one cited by Robert W. Taylor of New York. In his article on Syphilis in the third volume of Dennis's System of Surgery, he speaks of cases and refers to them in his well-known work on Syphilis and Genito-Urinary Diseases. The extract is short and I will read it:

> "It is rather revolting to one's feelings to put the matter on paper, but the interests of medical science certainly warrant the recital. I have seen two cases in educated and religious people in which the weight of evidence strongly pointed to the origin of their labial chancres in the communion cup. Knowing as we do so well, that many innocent persons, particularly women, become unconscious victims of syphilitic infection and still follow the observances of a religious life, it is not far-fetched to assume that their diseased mouths may contaminate the sacred chalice."

As an analogous method of infection and one strictly comparable to infection through the communion cup, I may state that a patient of mine presented himself three years ago with an undoubted chancre of the lip. He was a man past 70 and I could find no possible source of infection. I inquired of him whether he had used another's pipe and he told me he was a member of a secret society in which the custom prevailed on the initiation of a new member, of passing around a "pipe of peace." The pipe was passed from one member to another, each taking a few whiffs at it in turn. He had assisted at such a ceremony about a month before the sore appeared on his lip.

E. Howard Babcock: The statement has been made that there were no facts to connect the cause and effect, or effect with the cause. I did not wish to bring out too many medical facts, because I was supposed to treat the subject from a dental standpoint.

This whole matter came into prominence by the action of Dr. Forbes of Rochester. At that time he was one of the prominent officials connected with the city government. In the church he attended, after a communion service there was an epidemic of diphtheria—there were twenty-four cases. The people at once surmised that there must be some cause for the epidemic. Dr. Forbes was successful in obtaining the cups used at that service, and examining them found the bacilli of diphtheria in the cups, thus explaining the spread of the disease. There are other cases on record; I do not have them at hand, but I could produce them.

Stephen H. Lutz: I had a case sent to me a year ago by a dentist. The patient was in Brooklyn on a visit and complained of a sore mouth. A tooth had troubled her about two months before and she had had a very sore spot on the gum behind that tooth for several weeks. That spot got well. Her dentist said it was a gumboil and her family physician said it was of no consequence. She then came to Brooklyn. The tooth bothered her again and she went to see a dentist here in Brooklyn. He noticed her mouth was full of mucous patches and sent her to me to confirm his diagnosis. I found an indurated spot behind the first bicuspid tooth and she had a number of well marked mucous patches all over her mouth. She had been to church and taken communion the day before she came to see me and that was the first time she noticed her mouth was sore, because, as she said, the wine stung the sore spots in her mouth. She had lemonade the same Sunday evening and noticed the same soreness. Her mouth did not trouble her before that Sunday. That was about a month or six weeks after she had this sore spot behind the tooth, which was a chancre without a doubt.

About five years ago when I was over in the Charity Hospital on Blackwell's Island we had an animated discussion there because at the Sunday services many patients from the venereal wards were allowed to go to church and partake of communion. We had four purely venereal wards there, besides four male wards and four female wards with thirty odd patients in each ward. Fully half of them were syphilitics, and those patients attended service and partook of the communion cup. We had a decided argument with the President upon the subject, but he would not provide separate cups for the syphilitic and non-syphilitic inmates because he thought there was no chance of trouble arising from the common cup.

J. Hobart Burge: Mr. Chairman, I do not intend to prolong the discussion. I have no connected speech to make. I only want to say what is in my mind. I think the enthusiasm of this meeting and the fact that the discussion has all been on one side has led us somewhat to magnify the dangers of the partaking of the common communion cup.

In the first place, the exposure there, so far as any exposure exists, is for a second, it is a momentary exposure, and during all the years of my experience as a member of the Episcopal Church —nearly sixty years—in which I have communicated many hundred times and with many thousands of people, I have never in all that time heard of or seen a case of disease that was attributed to that cause. For a man to declare that such a thing is impossible would be very bold and very untruthful; we know it is possible; we know that that instant of exposure may give rise to a disease that would be fatal, but I have never in all that period of experience heard or seen a case that was suspected. The inferences that have been drawn from some suspected cases, like Dr. Warbasse's clergyman who drank out of the cup that some one else had drunk out of and acquired syphilis, or the young man in the office who drank out of the same cup as the young girl, are not of necessity logical; possibly there may have been osculation there. The trouble may not all have arisen from the cup.

The Subject as Viewed by the Minister.

Rev. Robert J. Kent, D.D.

Pastor of the Lewis Avenue Congregational Church, Brooklyn.

I wish to say that I have been greatly pleased with the series and sympathetic tone of this discussion to-night. It is just what I expected. During the years of my ministry I have enjoyed a very pleasant relation with the medical profession; I have tried to work with the doctor, remembering when calling upon the sick that a cheerful voice and countenance are a good medicine; and I have found some of my most valuable helpers among the physicians of my congregation. They have often opened the door for me to minister to the spiritual needs of the sick and dying. Therefore I am glad to be with you this evening and add a few words to this interesting and important discussion.

Yet I shrank at first from saying anything to-night on the subject under consideration because I represent a church that has not yet adopted the individual cup; and it seemed to me at first that it would be much more appropriate for the pastor of one of the quite large number of churches that have substituted the individual for the common communion cup to take my place. On second thought, however, I decided to come because I can represent the churches and pastors who have the matter under serious consideration, and can state why we favor a change; and at the same time why it is necessary to make haste slawly.

I appreciate the difficulty of getting clear and positive proof of the spread of disease through the use of the common communion cup. The cases cited have been analogous, but have not been of the nature of direct proof. The sacred sentiment connected with the communion service has shielded it from the searching light of scientific investigation. It is difficult to apply to it the tests of scientific experiment. Yet such facts and convictions as you have you should not hesitate to declare clearly and forcibly, because of any sacred sentiment connected with the communion service. Truth itself is sacred. And please bear in mind that the leaders in the Christian church to-day are thoroughly imbued with the scientific spirit; and that, although there is a proper, and reasonable, and necessary conservatism in the sphere of religion, yet there is a growing recognition of the light that comes through the channel of science as coming from the Source of all Light, just as truly as the light that comes through the channel of religion. If the medical profession has a message to deliver on this matter that interests so many it should deliver the message without shrinking, and the Christian community should be ready to hear and heed.

In recent years I have been frequently made to think about the desirability of substituting the individual for the common cup at the communion service. Personally, and I say it without the slightest hesitation, my own feeling in regard to the common cup is one of positive repugnance. I have noticed, too, that there are some members of the church who always refrain from the use of the cup; they raise it to, but do not touch it with their lips. They do just what I would be strongly inclined to do were I in their place. And I have found, also, that the more the matter is discussed the stronger is the sentiment in favor of the change. I have seen this in the church of which I am the pastor. Several months ago I dropped a word at one of the meetings of our standing committee which set the members thinking, and which led in time to the appointment of a committee to consider the matter carefully and to report as to the desirability of making any change. The result is that we are ready to recommend unanimously to the church the adoption of the individual cup. It has been remarked here to-night that the most hopeful way of bringing about a change is by educating from the bottom up; through the people up to the ministry. Whether he does it or not, I certainly think that it is the duty of the minister to lead in such matters. And I have been the more ready to do so, because I have recognized that it is possible, especially in a large city church, for persons to sit together and drink from the same cup, who, until recently, differed widely from each other in character and manner of life. Not only the rich and the poor, but the sinner and the saint meet together in our churches. And it is the glory of the Christian church that its door stands open for all who wish to live a better life. But the evil physical consequences of a former wicked life cannot all be prevented by a changed purpose in life, no matter how sincere; and I would not have the cup pass from the lips of the unclean to the lips of innocence and purity.

Two things have retarded the adoption of the individual cup. As already mentioned in the discussion, there is a strong sentiment, tender and sacred, connected with the use of the common cup. And sentiments are stubborn facts with which we have to reckon. It is well, however, for those who oppose any change from the common to the individual cup to be reminded that in other features the Christian church has departed from the form of observance in the early days of Christianity. We do not recline upon couches as the disciples did when the supper was instituted; we do not always observe it in the evening; in many of our churches fermented wine has been displaced with unfermented grape-juice, and the number of cups has been greatly increased. It is not a question, in many of our churches, between one cup and several cups, but between many cups and many more; for in some churches already as many as twenty-five cups are used. There has been, also, a practical difficulty in the way of making the change. How to serve a congregation of from 800 to 1000 communicants, in a short time, without confusion, and in such a way as to preserve the dignity and impressiveness of the service, is a practical and important question. It can be done, of course; but it involves such changes in the method of administering the communion as make the officers of our churches inclined to give the matter very careful thought before giving up the old way.

But the change, I am satisfied, must come. The individual cup is making its way rapidly, considering all the circumstances. It has been adopted by some of the largest churches in our own city. Others are considering it. In bringing it about your influence will be potent. The strong and united sentiment of such a body as this should have great weight with the ministers and people of our churches.

Rev. Albert C. Bunn, M.D., D.D.

Superintendent of St. John's Hospital, Church Charity Foundation.

Unexpected as is this call to speak I must make my acknowledgments in answer to it, for the great satisfaction and instruction that I have received in this meeting, and together with Dr. Kent I very heartily rejoice in the tone that the debate has assumed with reference to the position of the churches.

It seemed to be implied by one or two of the speakers that the clergy were perhaps less likely to take an interest in a reform in this matter, because they were up front and were the first to partake of the sacred cup. I would call the attention of the gentlemen, however, to the fact that in a large number of churches it is the practice, and indeed in a strict construction of the Rubric it is the requirement, that whatever remains of the sacred elements of the bread and wine at the conclusion of a distribution in a communion service shall be consumed by the communicants who shall remain in the church, before they leave the church, and that this duty as a rule falls to the clergyman and to the communicants who are in the front pews; therefore they are quite as much interested as those who sit back, in the right settlement of this important matter.

It certainly is a very important subject. I have felt it for many years, and if a clergyman did not feel it in other ways, he would in the knowledge that some of the people are keeping away from the Holy Communion on account of their unwillingness to partake of the cup.

I am not one who believes that it is to be settled in any summary way. I do not believe that the individual communion cup will be received very readily or generally; I am inclined to believe it is not the final solution of it. There is a great deal, gentlemen, in the symbolism of the one cup in the Holy Communion. It dates back in the mind of the people and is connected in their thought with the story of the Holy Grail; it is interwoven with the sentiment that surrounds the Lord's Supper in such a way that it is difficult to see how the partaking of the individual cups can quite fill out the idea of the one cup that has been the practise in all time past in the reception of the Holy Communion.

Reference has been made to Da Vinci's picture, but I do not suppose it is claimed that it is accurate. As regards the fact of the distribution of bread and wine, the Holy Bible appears to say that the cup was passed around, but I by no means claim that is essential; I do not think so; I only mean that, as Dr. Kent says, we must make haste slowly and prove the things that are good before changes are made.

In the administration of the Holy Communion to the sick in the hospital, I always dip the bread in the wine and say the sentences alternatively for the distribution of the bread and of the wine. Maybe some modification of that practise will yet come to fulfil the requirement. For my part, if I were going to use the individual cups I think I would still have in front the memorial cup, presented in memory of the mother or a departed friend, and perhaps pour from that into the individual cups and preserve the sentiment in that way; but it is a subject that it is delightful to the clergyman to learn is so sympathetically considered by this body of scientific men, and I am sure that it will be found that the clergy are not indifferent to the matter.

I would corroborate what Dr. Warbasse said as to the practise in the Episcopal Church generally, of the clergyman wiping the cup. Usually the number of communicants at the rail is not so great but that the cup can be turned by the priest a trifle as it passes from one person to another, and at the end of the distribution at one rail of communicants the cup can be carefully wiped. It is my practise to have it wiped with a napkin wet with a solution of corrosive sublimate; I do not know as that is very important, but it seems to me in the way of right thinking and to minimize the danger.

The growing practise of the use of the loving cup in spite of the danger of bacilli, shows that the idea of fellowship is to be preserved in the symbol. It is the great idea in the world; anything that weakens that, weakens the hold of the great idea of the Holy Communion in the Christian Church; that is Christian fellowship.

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Note.—For the convenience of any who may wish information regarding the sources from which individual communion sets may be secured the addresses of all the firms of which are now engaged in the manufacture of individual services are given, so far as can be ascertained.

Gorham Manufacturing Co., Broadway and Nineteenth street, New York City.

Husted Communion Service Co., Oberlin, Ohio.
Reed & Burton, Taunton, Mass.
Sanitary Communion Outfit Co., Rochester, N. Y.
Thomas Communion Service Co., Lima, Ohio.

HENRY P. DE FOREST, M.D., Secretary.

369 Hancock Street.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.
ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

EDITOR IN CHIEF:
JOS. H. RAYMOND, M.D.
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VOL. XIV. No. 4.
WHOLE No. 148.
BROOKLYN, N. Y., APRIL, 1900.
Single copies 25 cents.
$2 a year, in advance.

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

PRACTICAL REFORM OF ONE HOSPITAL EVIL—THE SYSTEM OF INSPECTION RECENTLY ADOPTED BY THE DEPARTMENT OF PUBLIC CHARITIES.

BY ARTHUR C. JACOBSON, M.D.

In accordance with the new rules of the Board of Estimate and Apportionment, which became operative Jan. 1, the hospitals of this city are being subjected to an inspection the object of which is to enable the city, systematically, to reimburse these institutions for their care of the deserving sick poor, as well as to systematize the expenditure of public moneys for this purpose.

Whereas, in the past it has been the custom for certain institutions to receive bulk appropriations, which may or may not have been sufficient for their needs, and which, on the other hand, may, in some instances, have been much too large, in the future this will give way to a rational system whereby they will be paid 60 cents per capita for medical cases and 80 cents per capita for surgical cases for each and every's day's treatment of a given individual, whose status as a charity patient and as a *one year's resident* of the boroughs of Brooklyn or Queens will be determined by a medical inspector acting for the department. The dates of admission and discharge will constitute one day.

Eighteen dollars will be paid for each maternity case if discharged on or before the fifteenth day. After fifteen days, $12 per month will be paid for each nursing mother. All children under two years of age will be paid for at the rate of 38 cents per diem. Over this age all patients earn the 60 and 80 cent rate.

Cases falling without this classification may of course be maintained by the institutions caring for them at their own option. In the event of their electing not to care for non-residents they may transfer them, if transferable, to the care of the State at the Kings County Hospital, nor does it fall within the province of the Department of Public Charities to regulate the care, on the part of private hospitals, in any way, of patients holding property, deriving financial support from relatives, enjoying large pension or other incomes or who in any sense are not included in the charity class. The payment of any sum exempts a patient as a charity case. With the expenditure of public moneys only is the department concerned, and the right to determine who shall and who shall not become a recipient of city support.

All cases, except emergencies, must apply and pass inspection at the office of the department before recommendation for admission to any hospital.

All cases, save emergencies, will be cared for at the Kings County Hospital, *i. e.,* within its capacity. Here again, however, it is optional with private hospitals whether or not they maintain such cases themselves. In no way does the department seek to usurp private privileges. It is to be seen, however, that the department reserves the right to assign all charity cases as it pleases to the various institutions at the time of application. This is no more than right, however, since the city pays for their maintenance.

The following notice has been sent by Commissioner Simis to each hospital:

"All persons requiring hospital treatment (as distinguished from dispensary treatment) for which the appropriation is applicable, when applying to you for hospital treatment must be referred to the office of this department for tickets of admission whenever this is practicable. If, however, they are unable to apply to this department, and are admitted by you, immediate notice of such admission must be given to this department, and payment for the treatment of such of these patients as may be accepted by the department will only be allowed from the receipt of such notice.

"All persons received by you as public charges shall be removed to the public hospitals whenever removal is practicable.

"The dates of admission and discharge together shall constitute one day.

"Bills must be sent to the office of this department on the first day of each month, and should contain only the names of persons discharged during the preceding month.

"In no case will an acceptance be made of a patient where he or his immediate relatives are able to pay for treatment.

"It is the intent of the aforesaid rules to insure the treatment of the sick poor in the public hospitals whenever this can be done without injury to the patient. Your cordial co-operation is therefore invited that the purpose of the Board of Estimate and Apportionment may be carried into effect."

Any hospital may, of course, admit a patient without applying to or notifying the department, but in such instances the city incurs no expense for maintenance.

Cases admitted directly to any hospital in the intervals of inspection are to be called to the attention of the department at once by means of printed slips which are furnished, the inspector later making a full investigation of them.

In regard to the determination of a given patient's or his near relatives' ability to pay, the inspectors will, in all cases, give the benefit of any doubt that may exist.

To the judgment of the hospital physicians or other authorities of the institutions is left entirely the question of which of its applicants should or should not be sent to the department, conditions of physical ability to go being also involved here. Their latitude in this matter is, of course, unlimited, as it should be, the only requirement being immediate notification of the department if the case is to be a city charge.

It is fair to say, even at this initial period of what seems to be a practical reform in the bestowal of charity funds, that what we might call legitimate institutions can only benefit by this method of finance. If there be any institutions whose right to exist is questionable, and whose existence in the past has been unknowingly fostered in any way by the city, their outlook is stormy. Other hospital abuses will continue, to be sure, but one phase of them will be scientifically destroyed, or at least lessened.

Medical men should not forget, too, that this one great practical reform has not come through them. It has remained for practical business men of the types of Controller Coler and Commissioner Simis to institute it. When it comes to medical men attempting to accomplish anything in the way of reform of existing medical evils there is nearly always presented the spectacle of a body wandering in the desert of disorganization.

The remedies for all medical evils lie in the profession's own hands, and it has been said by a high legal dignitary that "if doctors would only agree on almost any measure, it would be quickly made a law; but their proverbial lack of harmony made legislators backward about advocating or passing medical bills coming before them for consideration." Who shall run counter to the experience of the ages and say that doctors will ever agree?

However, it is pleasant to *think* of all this coming right some day—not as a real fact, which thought would be "as fragile as a dream"—but as a Utopian fancy.

We must admit that the entire system of medical finance, so far as it is in the hands of medical men and so far as it applies to the hospital and dispensary abuses, for in their ultimate bearings they have to do with professional money matters, is badly demoralized, always has been, perhaps always will be.

It will be seen that while the city has taken steps to regulate hospital matters as far as *itself* is concerned, it still remains optional with the hospitals, in large measure, to continue certain phases of charity abuse.

It is to be borne in mind that, under the new rules, *all* sick or injured persons to be treated and supported at the city's expense must be sent to the county hospital, hence the regulation requiring all except emergency cases to apply at the central office. This is supposing there is room for them there. When that hospital is crowded, and then only, they will be sent to other hospitals by Commissioner Simis. Two large wings have recently been added to the county building.

The inspectors of the department work under the direct supervision of Dr. J. T. Duryea, the superintendent of the Kings County Hospital, whose excellent work in modernizing that institution is well known.

There will, of course, be few transfers for the present from the various private city hospitals to the county institution or to institutions not located in Brooklyn or Queens, both because of the already crowded condition of the county hospital and because of the untransferable condition of many patients.

Private hospitals maintaining patients who have not lived continuously in Brooklyn or Queens for one year prior to admisson must stand such expense themselves, but the department stands ready to transfer such cases when practicable to their proper boroughs, or, if not residents of any borough, to State care at the Kings County Hospital, as before mentioned. There is no exception to this rule.

There is absolutely no reason why any charity patient should suffer hardship because of the new rules, which in their practical application will be tempered in all cases by the discretion and kindness of all officials concerned.

It is certain that the matter of the city caring for the sick poor will be more properly and humanely met than ever before. Commissioner Simis believes that he can already see three good results, as under the new rules "all public funds given to private hospitals must be used for the care and support of patients and cannot be diverted for such purposes as increasing salaries and erecting buildings; as persons whose chief illness is chronic laziness can no longer remain in comfortable cots at the city's expense, and as persons who are really ill, but whose relations are able to pay for treatment, are now to submit to investigation, which will result in their being unable to have treatment at the city's expense to the exclusion of sick persons who are without means."

The Board of Estimate and Apportionment has appropriated provisionally $160,000 for the year 1900. It is said that $100,000 more is being held in reserve, awaiting the results of the tentative use of the $160,000.

Even if the old plan of giving private hospitals bulk appropriations were to be still adhered to the present system of inspection would be a good thing if it served only the purpose of making sure that the hospitals earned their appropriations, as well as showing the actual work that the hospitals were doing, thereby enabling the city to see with precision their actual needs and, if unable to pay for all, to at least make the appropriations proportionate, which is by no means the case now.

Those who believe in direct charity, and it is to be presumed that no one believes in anything else, should find much to please them in the plan now in operation.

In regard to the rejection of non-residents, there are those who will say that non-resident emergency cases, at least, should be appropriated for, as a matter of humanitarianism, etc., but it must be remembered that, in dealing with expenditures of this sort, no matter what the feeling of any individual official or plain citizen might be, the city could not undertake to care for any but its own, nor should it, both as a matter of business and legality. Its officials have no right to take into consideration any other than its own dependents. Any other principle would be immoral and subversive of the fact that no other community should be allowed to shift its own responsibility for its own dependents. Private charity will always find a Good Samaritan function in the immediate care of non-resident emergencies, who must be taken in by somebody, and if private philanthropy is genuine there will be no stickling on this point. In this matter it is here that public charity ends and private charity begins.

And when they have discharged this philanthropic function the State stands ready to relieve them, when the emergency ceases to be an emergency and it becomes transferable. And the private institutions should see to it, as a matter of principle as well as because of their own sometimes limited means, that non-residents ultimately reach their proper places, unless they have some special personal or scientific interest in certain cases.

It is a fact that overseers of the poor, and of the sick poor at that, in small places contiguous to New York, have actually shipped their town's dependents to New York and turned them loose on the streets. In the face of this, why should not the laws relating to non-residents be very plain and thoroughly enforced? With lax laws there would be practically no limit to the extent to which this evil might attain.

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TRANSFER OF THE BROOKLYN HOMEOPATHIC HOSPITAL.

Mayor Van Wyck has approved the bill authorizing the transfer to the City of New York of the Brooklyn Homeopathic Hospital. The measure is now in the hands of the Governor for his action.

HEAD INJURIES.

BY SILAS C. BLAISDELL, M.D.

Formerly Demonstrator and Lecturer on Applied and Comparative Anatomy, University City of New York; Formerly Lecturer on Regional Anatomy, New York College of Dentistry; Visiting Surgeon to the Brooklyn Eastern District Hospital.

Read before the Medical Society of the County of Kings.

Injuries to the head where fracture has resulted present to the surgeon's consideration perhaps the most serious subject in his domain. The possibilities for evil results being so great, all the knowledge and skill at his command must be brought into play in order to obviate the far reaching and so often fatal effects of these injuries.

No class of cases require such careful observation. That case which on its admission seems most grave may resolve itself into a case of simple concussion; and again, that which appears simple at the outset may suddenly present the most serious aspects. No case of injury to the head can be treated with impunity, but the surgeon must use that "eternal vigilance" which is the price of so much other than liberty, else will he find himself minus his patient who, while the surgeon rests in fancied security, seizes upon that moment to hie himself "to that bourne whence no traveler returns."

Where a positive diagnosis of fracture of the skull, simple, compound or comminuted, has been established, and whether the results manifest themselves in the condition of the patient or not, there is but one course open to the surgeon, operative interference.

These operations do not always carry with them the success one could wish for, many agencies operating to bring about this much-to-be-deprecated fact. We must take into consideration the age of the patient, his physical condition, the amount of shock and other similar matters, on the one side; and on the other, we must consider the surgeon himself, his assistants, the amount of time consumed in operating, etc.

Regarding the former of these conditions, they are to a certain extent beyond our control, and all operators are placed on the same footing so far as these are concerned, as all these cases are forced upon us.

On the other hand, that relating to the surgeon, his assistants, etc. Herein lies the vital point in these operations. Trained assistants are invaluable and add incalculably toward good results, relieving the operator of much unnecessary trouble and permitting the complete concentration of his mind on that which is before him, knowing what to do and when to do it, not waiting for the word of command, but like soldiers amidst the noise and turmoil of battle, watching the movements of the captain and following in the path he points out, thoroughly familiar with anatomical construction, standing ready to catch the bleeding vessel, to second the operator's efforts, quickly, quietly and effectually. To these much credit is due and must be given.

To the surgeon himself then we must look for all else by which our end shall be gained. His skill and dexterity, his thoroughness and the amount of time expended in the operation all go to make up the much desired end, the patient's recovery. Much of the lack of success in these cases is due, it is believed, to a want of thoroughness and an excessive amount of time taken to perform the operation.

Concerning thoroughness,—all spicula must be removed carefully and completely, and a sufficiently large opening must be made to insure what the operation was done for, *viz.:* the removal of all pressure on the brain. Each crack or fissure must be enlarged, followed to its termination and scrupulously inspected. There are no other means of ascertaining beyond question, as to what has taken place beneath, a fact that must be patent to all.

This may necessitate a most formidable operation. One almost appalling perhaps in the amount of tissue destroyed, but which will amply repay the operator and give such results as may be brought about in no other way. Such, at least, has been the experience of the author, and will be dilated upon further in the reports of cases appended.

In *Case 9*, for instance, quoted below:

Here was a most extensive solution of the continuity extending almost around the skull through the parietal and occiput, to opposite parietal so great an amount of damage was done as to make us almost despair of success, yet by following the crack throughout its entirety and thoroughly opening it we were enabled to discover and remove many spicula and fragments which, without an operation of the same magnitude, would have remained and without a doubt proved fatal to the patient.

The amount of time taken to perform these operations should be limited to the smallest amount consistent with thoroughness, and here is where the surgeon himself may act as a deterrent to success. If he has not his anatomical landmarks before his eye, if he does not use his instruments with the greatest dexterity and rapidity permissible with proper operating, then he detracts so much from his chances of success by prolonging a condition already bad enough in itself.

Added to the dangers of shock are the dangers of a prolonged anesthesia. In hastening the steps of the operation, it is the author's practise to make an incision clean to the bone, laying back the peri-cranium with the scalp, thus avoiding the necessity for two separate incisions, lessening the danger of tearing the peri-cranium and making also a saving of time. In suturing after operations, flaps and peri-cranium are stitched together at one and the same time, lessening again the time expended and giving when thus done most excellent results.

The selection of instruments to be used in these operations is,in the estimation of the author, most important. The trephine, the rongeur, the mallet and chisel are instruments familiar to all, but not used by all alike, each individual having his preference and following his own ideas as to the field of usefulness for each.

The evidence is most conclusive that the instrument, par excellence, is the rongeur. The chisel should never be used on the skull. It is a clumsy instrument, uncertain, does not permit of the rapidity of using, which is most necessary, and in the hands of an unskilled or mediocre operator is potent for mischief. The rongeur gives us complete control and we can gauge to a certainty the amount to be removed at each closure of the jaws, permits of clean work and the greatest rapidity.

Where for some reason, such as great density of bone, the rongeur cannot be used, requiring too much exertion on the part of the operator, or to avoid danger to the contiguous parts, the trephine can be used to make a series of successive openings, which can then be easily brought into one, avoiding the dangers already stated, and being but little inferior in point of time to the use of the rongeur.

The results obtained by the use of this instrument lead me to place the stress on it that I do. It is most valuable for rapid work, which point alone, in my estimation, redeems it from all the arguments that can be urged against it.

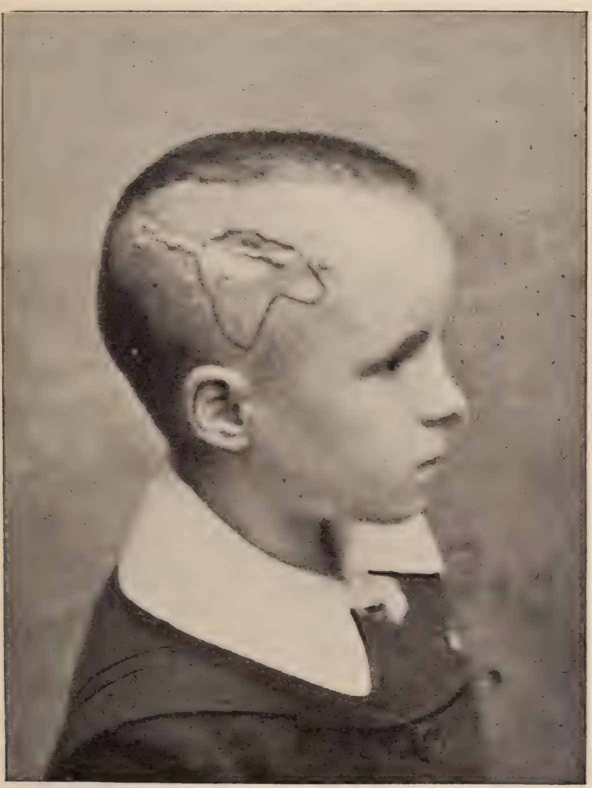
There can be no manner of doubt but that much good work has been done with the mallet and chisel by some operators, and the results obtained at the hands of these men would be most gratifying to any surgeon no matter to what method he adheres; but these men are the exceptions and not the rule and would probably succeed as well were they limited in their choice of instruments to a ten-penny nail. It is meant that in these cases their skill and dexterity, their quickness of perception and deftness of touch are exalted to such a high degree that the maximum of success would follow in their path in spite of their limited choice of instruments or of the crudeness of the same.

The point, however, lies here. Can they, in placing the mallet and chisel in the hands of their followers transmit to them at the same time that personality which has made the instrument in the hands of the master do the work accomplished? The answer, I think, is obvious and needs no further comment.

The amount of force expended in the use of the mallet is considerable and varies, of course, at different times. This amount of force applied in this region has always seemed to be conducive of bad results. The thought has often been present in my mind while watching their use, how would the operator feel were he to receive one or two such blows on his skull? It would be an argument, I fear, of greater weight than "all the words of tongue or pen" that could be brought to bear.

The brain and skull in their mutual relations have been well likened by a homely simile to a jar filled with mustard seed, the jar representing the skull and the contents, the cells of the brain filled with their delicate protoplasm. A smart tap on the jar will cause a change in the relative position of the mustard seed, one to the other, perhaps not visible, but nevertheless, we know that such a change has taken place. If this can take place here in this instance, how do we know that a somewhat similar change may not take place under like circumstances between the delicate cells of the cerebral substance? Our knowledge of the subject is not sufficient to warrant us saying that it does not. If then, there is a possibility of damage being done, would it not be wiser for us, whose sole object is the repair of the injury already having taken place, to avoid as far as we are able a method whereby mischief may be done, however slight, and give our patient the benefit of the doubt?

It is not claimed that by the use of the rongeur no shock is inflicted. It is with this, as with all surgical interference, which, to a greater or less extent, does violence to already outraged nature, but it certainly does so in a lesser degree than in the use of the mallet and chisel, and for that reason among others the author gives it the preference.



Case VI.

These are the conclusions reached in regard to the proper instruments to be used in these operations and proved by the experience derived from a large number of cases in my service at the Eastern District Hospital. Success in these cases has been achieved, it is firmly believed, by following the ideas already pointed out; trained assistants, a well-planned operation coupled with a maximum amount of speed and a minimum amount of time.

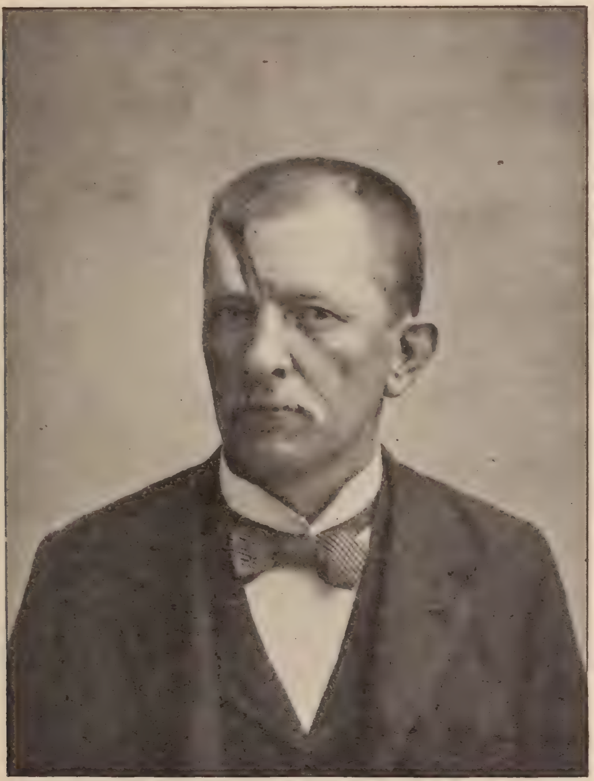
The author is well aware that in advancing these ideas he is treading on new ground and does claim originality. It is, however, the duty of each and all of us to state in which way, in our opinion, lies the road to success, and what should be avoided if we do not wish our efforts to be followed by failure. A good thing loses nothing by its repetition, and it is easy to lose sight of those simple things by which success is assured in the effort to follow some successful operator who has forced success by the strength of his own personality.

Case VII.

Cleanliness, surgical cleanliness must, of course, go hand in hand with the other steps of these operations. Instruments, towels, dressings, the hands of the operator and his assistants, the seat of operation, must all be rendered as clean as the circumstances will possibly allow, and as is well recognized by all, is not, in the list of things to be considered, the least, by which the chance of failure is warded off.

The following cases exemplify what has been said and the perusal will show the gratifying results obtained by following the method described:

Case I.—T. M., native of Ireland, age 49 years, occupation boiler-maker. Was referred from Dispensary suffering from a fracture of skull due to the impact of a fragment of rock from a blast. The fracture included the squamous portion of temporal bone, the anterior inferior angle of parietal, and the posterior inferior angle of frontal bone. Operation five days after admission, and about 2¾ square inches of bone removed from seat of injury. The dura mater not wounded, but of a dark color from pressure. Time consumed in operating, 7 minutes. Previous to operation the patient had been delirious. Thirty-six hours after



Case XI.

operation became rational, made an uneventful recovery and was discharged cured, twenty-two days after admission.

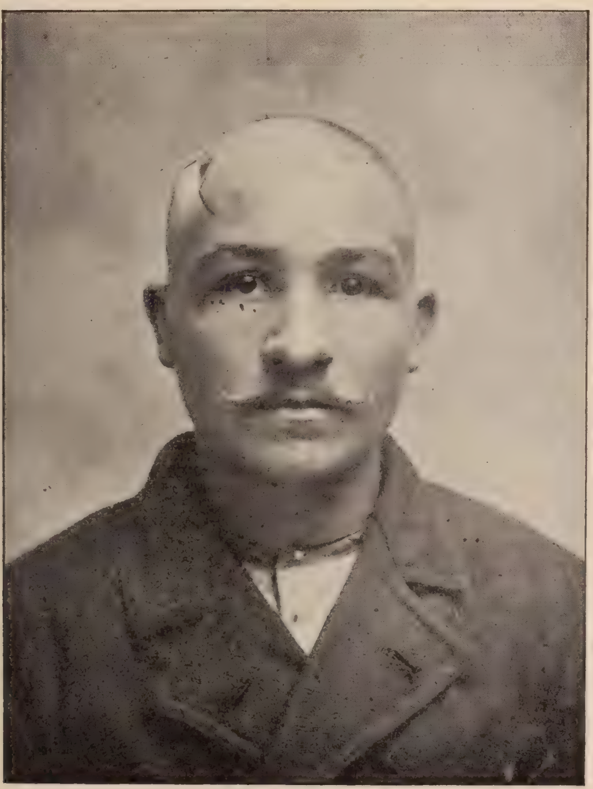
Case II.—J. V., age 21 years, native of the United States, occupation driver. Was admitted per ambulance with a compound comminuted fracture of skull. Was struck with a truck rung bound with iron. Fracture was of left frontal bone with a contused wound of forehead. Upon operation, about a square inch of bone was removed. Time of operation, 12 minutes. No bad symptoms followed and patient was discharged fourteen days after.

Case XIII.

Case III.—G. O., age 36 years; occupation fireman. Was admitted per ambulance with a compound fracture of skull of the left parietal bone about its eminence. Operation for removal of depressed bone successfully performed. Time of operation, 9½ minutes. Patient discharged cured, twenty-five days after.

Case IV.—J. McK., age 15 years. Was struck on the head with a snowball containing a piece of iron. When brought in the right side was in recurrent convulsions. Operation was performed at once. This was a fracture beginning on the left parietal bone running down to squamous portion of temporal bone, the depressed portion pressing on motor centres for upper and lower extremities of right side which were in clonic convulsions.

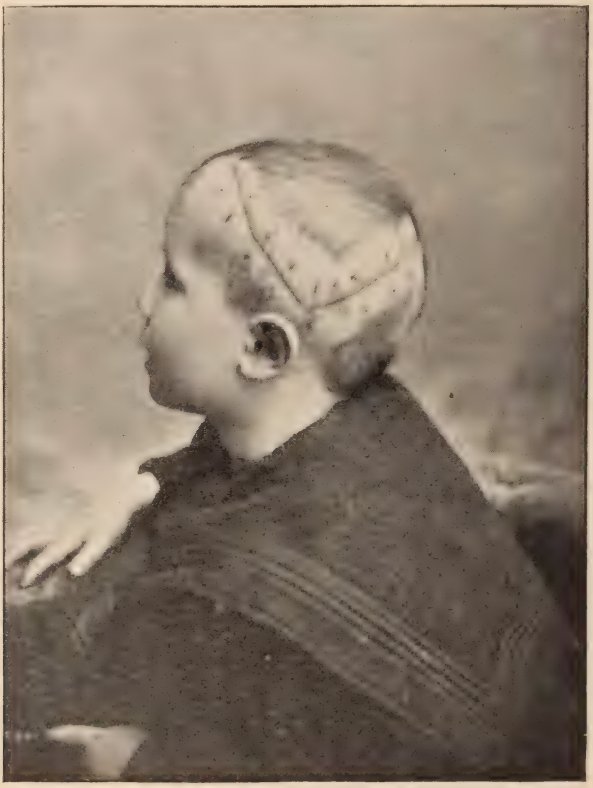
A piece of bone about one and a third times the size of a silver dollar was removed from seat of injury. Convulsive movements stopped during anesthesia and there was no return on recovery from the anesthesia. Time of operation, 6 minutes. Nothing untoward occurring, patient made a rapid recovery and was discharged cured in eighteen days.



Case XIV.

Case V.—P. W., age 34. Fell downstairs while intoxicated sustaining a fracture of left external angular process of frontal bone, with severe hemorrhage. Operation of trephining was performed and depressed portion was removed. Time of operation, 10 minutes and 15 seconds. Patient discharged in fifteen days.

Case VI.—J. L., age 7 years; kicked by horse. Brought in in a semi-comatose condition with fracture of the skull involving parietal and occipital bone on the right side. A piece of bone was removed on operating about 4½ inches in length and 1½ inches in width. Several cracks were at the same time opened with rongeur and thoroughly examined. Time of operation, 13 minutes. Complete recovery took place and patient was discharged on the twenty-sixth day after admission.



Case XV.

Case VII.—J. L., age 9 years. While running swiftly at play fell, striking his head against curbstone of sidewalk, causing a fracture of the right frontal bone. Two square inches of bone were removed from this region on operation. Time of operation, 12 minutes. Patient made a good recovery and was discharged in ten days cured.

Case VIII.—W. H. G., age 5 years. Fracture of left frontal bone from impact of a horse's hoof. Patient was trephined and with rongeur a piece of bone about the size of a half dollar was removed from this region. Time of operation, 6½ minutes. Perfect recovery took place in seventeen days, when patient was discharged.

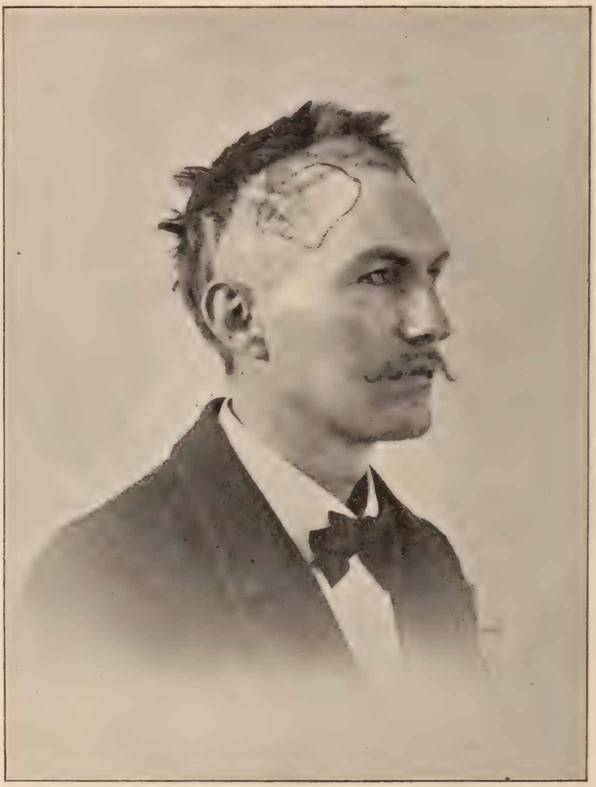
Case IX.—W. U., brakeman. Fell from car, striking his head against the rail. When brought in was comatose but regained consciousness. The diagnosis of fractured skull being made, an operation was performed revealing a fracture of great extent, starting from the left side about three fingers' breadth above the ear on a line a little anterior to the ear, running backward through the parietal and occipital bone encircling the skull to about one finger's breadth above the right ear and about two fingers' breadth posteriorly lower on the right side than on the left and nearly over the lateral sinus.

Case XVI.

This enormous crack was still further enlarged with the rongeur and many spicula and fragments removed. Time of operation, 22¾ minutes. Patient made a good recovery and was discharged in twenty-two days.

Case X.—I. Y., age 55 years. Fell from stoop while intoxicated and sustained a compound fracture of the left parietal just posterior to coronal suture including the sagittal suture and small portion of right parietal. Operation performed and fractured bone removed with rongeur passing over longitudinal sinus. Time of operation 11½ minutes; unretarded recovery and discharge in ten days.

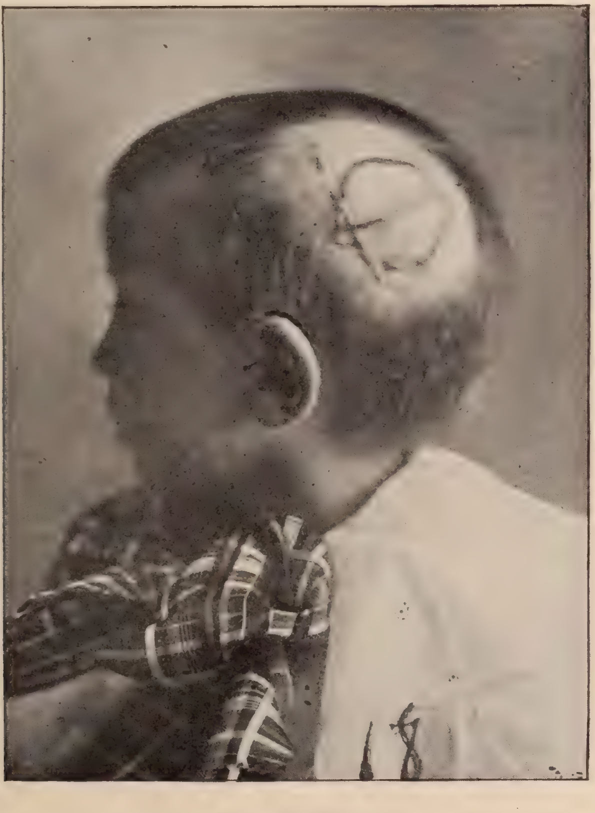
Case XI.—C. Z., age 44 years. An attempted murder. Was struck with a stove lid, the edge striking him on forehead and causing a fracture of frontal bone. The fracture was diagonal, extending from the left frontal sinus to coronal suture on right side about three fingers' breadth from the median line. The dura mater was wounded and a small amount of brain matter oozed out.



Case XVI.

On operating with rongeur, depressed portion was removed and wound cleaned from all splinters and fragments. Time of operation, 12 minutes. Patient made a good and complete recovery. The position and extent of the wound are well shown in cut, which is from a photograph taken shortly after his discharge.

Case XII.—J. B., age 44 years. Fell into a cellar. A wound of the head was stitched by an ambulance surgeon, and patient was taken home by the police. He was treated for eight days subsequently for concussion when the case was referred. The wound was found closed. There was no swelling nor infiltration. Patient had, however, an exceedingly severe headache; was perfectly conscious; agreed to an operation and transacted some business in a rational manner.



Case XVIII.

On examination there was found a fracture of the occipital bone on the right side, with a crack running down toward right ear. On operating the external table of the skull was discovered to be almost pulverized and internal table more disintegrated than external, if possible. Found also a mass of organized lymph well down toward sinus on right side with symptoms of a beginning meningitis.

The fractured bone was removed with great difficulty owing to its proximity to lateral sinus. Time of operation, 13¾ minutes. Patient discharged twenty-seven days after admission, recovered.

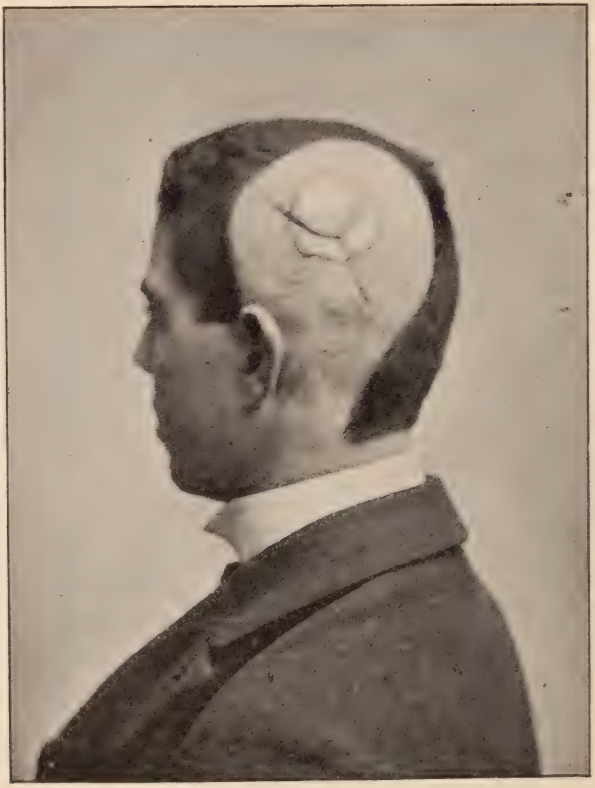
Case XIX.

Case XIII.—W. B., age 8 years. Was admitted per ambulance with a fracture of right side of frontal bone involving the roof of the orbit. On operation two pieces of bone were removed, both triangular in shape from horizontal and vertical plates, the bases joining at supraorbital ridge, the apex of one upward, the other inward. The optic nerve was injured by the roof of the orbit being driven back destroying the sight of the eye, and the origin of several of the muscles being removed, the patient has but limited control over motions of the eye. Time of operation, 8 minutes. Cerebral hernia was feared but did not occur. Recovered and discharged in twenty-eight days.

Case XIV.—K. B., age 19 years. Sailor. Was struck on head with a piece of lime weighing 250 pounds, at about three o'clock in the afternoon; worked until supper-time, 6 o'clock, ate supper and "turned in" complaining of pain in the head. About midnight he became delirious; had convulsive movements in left arm and leg, stertorous respiration, general edema of the scalp; no wound, therefore fracture was found with great difficulty.

Case XIX.

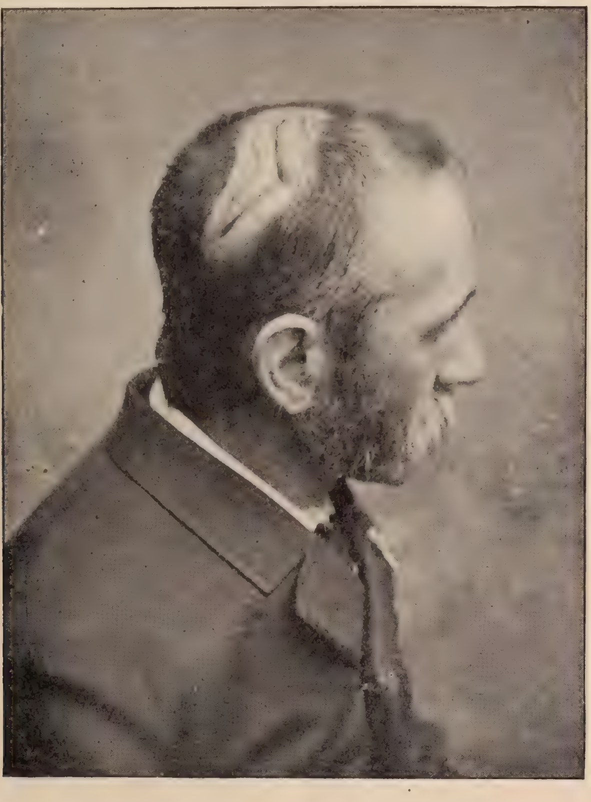
As patient was unconscious, operation was performed without administering an anesthetic. An incision was made on right side, starting about two fingers' breadth above the brow and on the temporal ridge, extending upward and backward to about coronal suture, and downward and backward to about four fingers' breadth posteriorly to the ear nearly to the occipital bone. An incision joining this at right angles, running straight over the head to the sagittal suture, a piece of bone was removed about the size of three silver dollars and on sweeping the finger between the skull and meninges, a three-ounce clot was poured out. Respiration immediately changed, convulsions ceased and patient became conscious in about two hours. Time consumed in operating, 14 minutes. An uninterrupted recovery took place and patient was discharged in nineteen days.



Case XX.

Case XV.—J. L., age 4 years. Walked in April 22nd, 1898, and with great difficulty a diagnosis of fracture of the skull was made, due to the lapse of time between the receipt of injury and the admission.

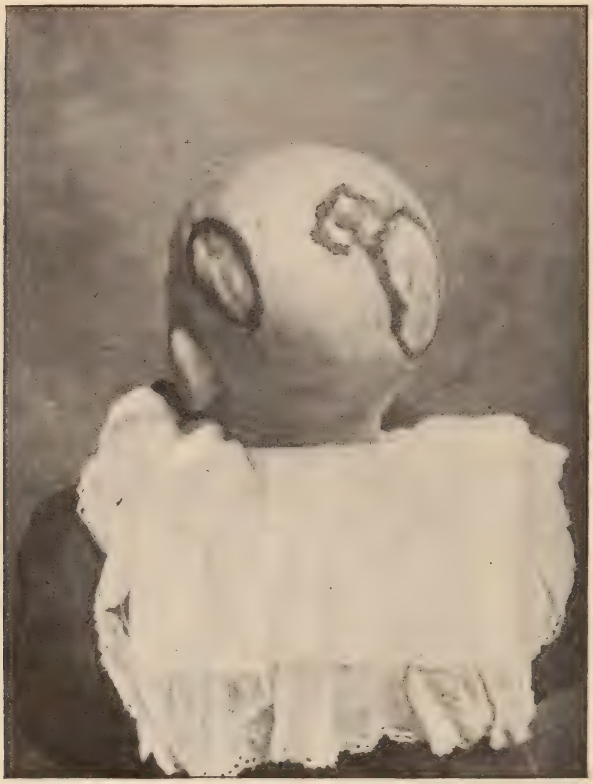
An incision was made beginning at the upper anterior edge of the attachment of the temporal muscle on left side, extending to the region of the occipital protuberance, going under the left parietal eminence; laying back the flaps it revealed a comminuted fracture of the skull from a point on the superior aspect of the frontal bone, through the upper part of the parietal, passing under the parietal eminence and curving downward and backward in the direction of the base, and then curving upward and backward and terminating in the upper and middle portion of the occipital bone. Discharged on the twenty-third day.



Case XXI.

Case XVI.—G. C., age 27, born U. S., was admitted from ambulance suffering from a compound fracture of the skull. There was no loss of consciousness, no pupillary or respiratory symptoms, no paralysis. Patient had received the injury by being thrown from a freight car. Operation revealed a depressed fracture of anterior and lower portion of right parietal, somewhat triangular in shape. The depressed portion was removed and margin trimmed with rongeur. Time of operation, 11½ minutes. Patient made an uneventful recovery and was discharged twenty days after admission. The photograph shows the situation and extent of the fractured surface and also the shape and amount of bone removed.

Case XVII.—I. L., age 55 years. Was struck on the forehead by stone while climbing a fence to chastise some boys who were annoying him. A complete opening was made by the missile in frontal bone, right side. There was no crack nor fissure. On operating for removal of fragment, it was found that part of the fragment was missing, which could not have fallen out and must fragment was missing, which could not have fallen out and must ough search made with no avail. As a last resort the frontal lobe of the brain was lifted and the missing fragment was found lying



Case XXII.

on the roof of the orbit at a point about ¾ of the distance posteriorly from the vertical plate. Time of operation, 20 minutes. Patient made a good recovery and was discharged cured in seventeen days.

Case XVIII.—V. R., age 3 years. Walked in carrying himself in a manner suggesting spinal trouble; three physicians and one well-known institution of New York had pronounced him suffering from spinal trouble produced by a fall thirteen days before he came to the hospital. With great difficulty a fracture was found on the posterior aspect of the skull, on the left side of the head over the parietal eminence, extending to the mastoid of the left side, also across the upper portion of the occipital bone. Time of operation, 11 minutes. Patient was discharged cured in two weeks.

Case XIX.—J. N., age 11 years. Admitted in semi-comatose condition, hemorrhage from nose and mouth and exhibiting contusions over right anterior and frontal regions. Fracture suspected. Operated on same day, removing illustrated portion of the frontal bone (including orbital plate), besides a strip extending backward on parietal bone about 1½ inches long. Wound healed by first intention. Was discharged twenty days after admission. Time of operation, 16 minutes.

Case XX.—T. O. S., age 19 years. Was struck by excavating bucket. Diagnosis: Fracture of skull. Left side. Skull trephined and pieces of bone removed. The inner table was separated from the outer to a great extent, depressing the dura. Discharged on eighteenth day. Time of operation 6 minutes.

Case XXI.—L. M. McG., age 42. Struck by trolley pole. Diagnosis: Compound fracture of skull on right vertex. Four inches incision made overy the injury. Trephined and button of bone removed. The cracks were then followed up with rongeur. Dura mater found intact. Healed by first intention. Discharged on eighteenth day. Time of operation, 7 minutes.

Case XXII.—N. J., age 3 years. Admitted suffering from fractured skull. Fragments removed from left side. Patient became very restless and as there seemed to be no improvement an operation on the right side was decided upon. Skull was again trephined and portion of bone removed. Improved gradually and was discharged in nineteen days.

In considering these cases there are certain facts worthy of note from the standpoint of the surgeon, some purely surgical, others of a medico-legal value which it may not be inappropriate to present.

In Cases 1, 12 and 18 we have an illustration of what has been said of the uncertainty of head injuries. Case 1 applied to the dispensary, was examined by a man of experience in surgery and pronounced a simple scalp wound! Returning to the dispensary the following day, the case was diagnosed as a fracture by a surgeon of much less experience than the one who made the first examination. That the last diagnosis was correct is shown by the subsequent course of events, and the operation proved its truth, showing how easily such injuries may deceive even the most experienced, and that they call for the most careful and particular attention, on the part of the surgeon into whose service the case has entered.

Cases 2, 3, 5, 7, 8, and 10 are to be noted principally for the rapidity of recovery, it being remembered that in most of these cases the injuries were quite extensive, and all were sufficiently serious as cases of this class.

Case 4 is peculiar insomuch as the picking out of the motor centers for the opposite side may be considered so. The fact is that there was no return of convulsion after recovery from the anesthetic and the removal of the pressure on these centers.

In Case 6 the very large amount of bone removed and the speedy and complete recovery may be remarked in passing.

Reviewing Case 9, we have an example already alluded to of the value and advisability of following each and every crack to its utmost extremity excepting, of course, those leading to the base of the brain, allowing nothing to deter us from doing this completely and fully.

Case 11 presents some points of interest considered from a medico-legal standpoint. The defense claimed that the injury was inflicted by the patient falling downstairs. The deduction was drawn from the angle of the wound with the perpendicular; the clean cut of soft parts and a wounding of the skull and meninges, that the injury was inflicted by a right-handed person standing in front of patient, striking with some edged instrument, probably an ax.

This conclusion was accepted, and the defendant convicted on this evidence. It was proven later that the conclusions thus reached were correct, one of the assailants confessing, the only discrepancy being that a stove lid was the weapon used and not an ax as was surmised.

Regarding Case 12, it is worthy of note that though the patient seemed entirely rational prior to the operation, and performed several important duties, signed checks, etc., he could not, after the operation, remember anything about these things, his mind being a blank from the time of injury to three or four days subsequent to the operation.

To consider such a case as this would open up an immense field for argument and speculation entirely outside the scope of this article. It is enough, perhaps, to call attention to the somewhat strange condition, the great degree of uncertainty in dealing with these cases and the grave consequences that might ensue to the patient or his friends from such a condition not being recognized.

Case 13, W. B.—At the time of operation there was considerable discussion as to the advisability of removing the roof of the orbit, cerebral hernia being feared. Following the method of removing all loose portions at or near the seat of injury, the fragment including the roof of the orbit was removed; no hernia following, recovery took place without further trouble, a result that probably would not have been secured had the loose portion been allowed to remain.

Considering Case 14, we find contrary to our expectations, in view of the injury, that the patient evinced no sign of the damage done, for so long a time after its infliction, having performed his usual duties apparently as if nothing had occurred.

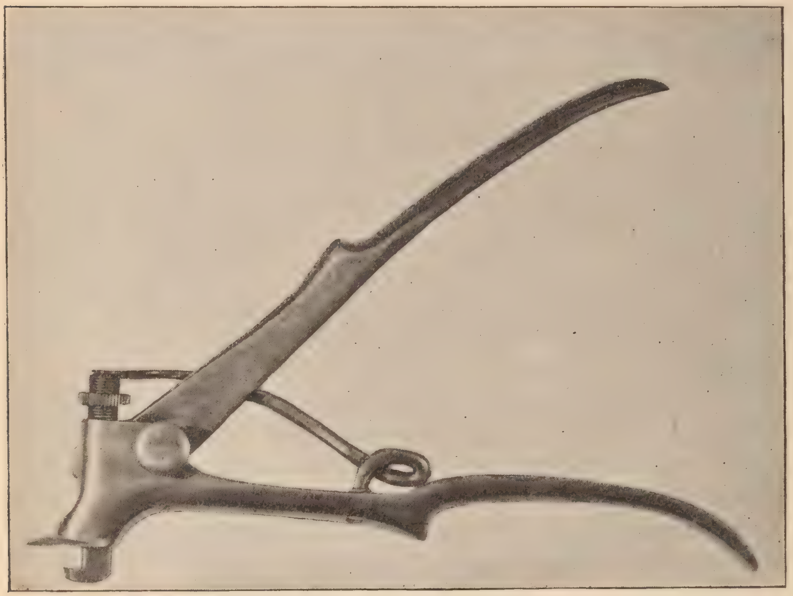
It would seem, that given the question, could such a thing happen, one would be justified in answering in the negative unless such a case had come under our recognition.

Case 15 is chiefly noticeable outside the facts given in the report, that in lifting the lobe of the brain the optic nerve could be plainly seen and the filaments of the olfactory noticed, leaving the cerebrum for their points of distribution.

In performing the operation herein stated, particular stress has been laid on time to the exclusion of almost all other considerations. All depressed portions were removed, existing openings enlarged whenever necessary and especially where the cracks or fissures existed, these have been opened with the rongeur, leaving nothing to chance.

Complete surgical cleanliness has been carefully observed, no reliance being placed on antiseptics, so-called; the tripod upon which our practise in these cases rest, being *speed, cleanliness* and *trained assistants,* considered in the order named.

Although great credit is due to the originator of this instrument as far as the ingenuity of its construction is concerned, I have found extreme difficulty in using it in its original form. No doubt the inventor can handle it perfectly, but any instrument to be of universal use should be one that the novice can manipulate as well as the expert. The modification of this instrument that I have made, certainly makes it perfection in my hands and to it great credit is due.



Modification of the De Vilbis Rongeur.

THE DE VILBIS FORCEPS.

In the De Vilbis instrument the lower jaw which goes into the cutting edge is exactly at a right angle to the descending shaft, allowing the forceps while in operation to slip back. As the cut shows I have had the point of the jaw turned up about 1-80 part of an inch insuring a firm grip from below as well as from above. The upper or opposing jaw in the De Vilbis instrument is simply a cutting jaw, as in any rongeur, whereas in my modification, the entire point is widened to ⅜ inch and lengthened to about ½ inch. This holds the forceps steady while the crushing process is going on and also gives protection to the surrounding parts. The third and last improvement to my mind is in the set screw on the shaft, which when adjusted to the thickness of the skull prevents the jaws from opening wider than necessary. In the original should the handles, which are separated by a strong spring, accidentally slip, the lower jaw would be pressed more than ½ inch into the brain, which is entirely overcome with this set screw.

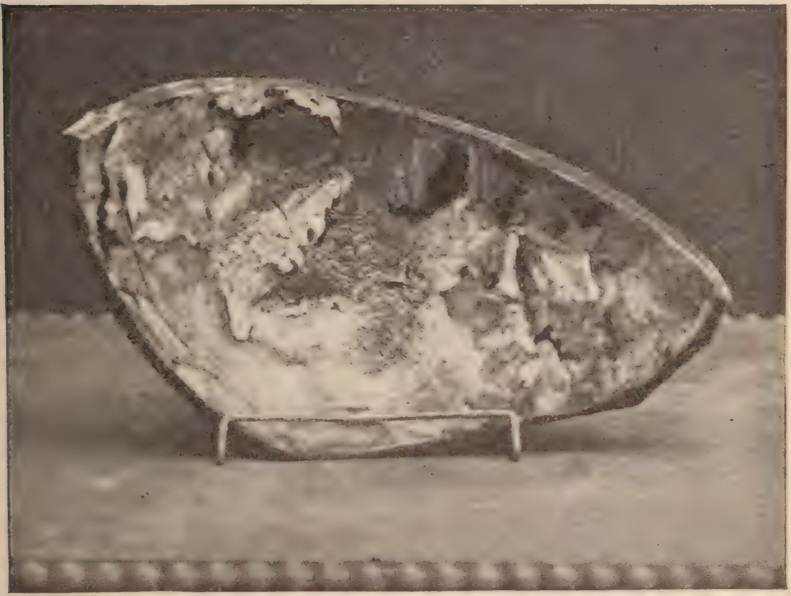


Fig. 1. Addendum.

Since the above article was read the following case which aptly illustrates my point of contention has come under my notice and the salient points are here given.

J. M., age 25. Was admitted to the Eastern District Hospital suffering from continued epileptic convulsions at 10.30 a. m., December 24th, and died the same day at 1.45 p. m. A history of fracture of the skull about two years previously was obtained, which had been operated upon and depressed fragments elevated only. There had been no epileptic symptoms before the time of fracture, the patient being a strong and healthy man. Post mortem revealed a splinter from inner table at the site of fracture pressing on the meninges and the corresponding depressions in the brain substance, causing the epileptic seizures, proving to be correct, my practise of removing all bone from the seat of fracture. The two pictures shown are photographs, one showing the depression in the brain substance, the other the inner table at seat of fracture showing the depression and splintering of that part.

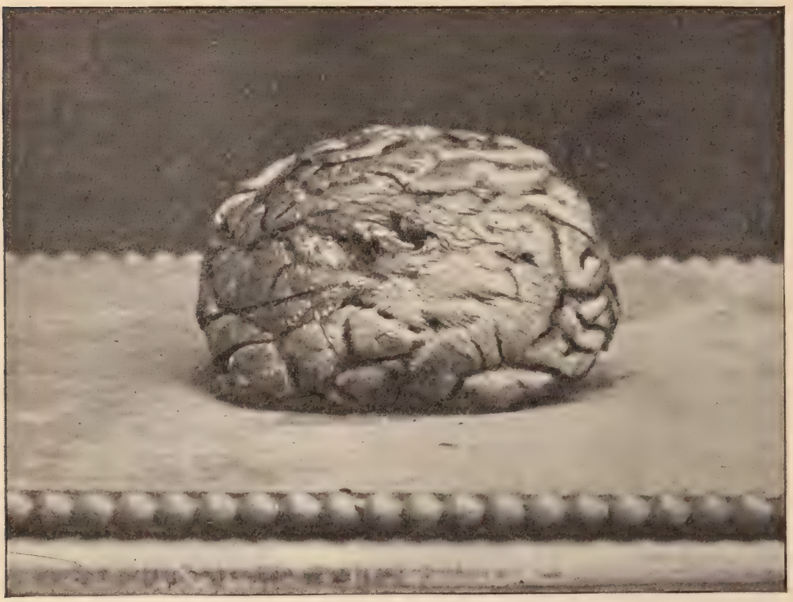


Fig. 2. Addendum.

DISCUSSION.

J. P. Warbasse: There are some features of this paper which attract our attention, and to which we may give a few moments of consideration, without entering into a general discussion of the subject of fractures of the skull. The celerity of the operator is certainly to be commented upon, and, if rapidity of operation is indicated in this class of cases, the speaker has fulfilled in no mean measure these indications. There are few operators who are able to show such rapidity.

A point which has struck all of us as something of an innovation in the operative treatment of fractures of the skull, is the author's statement that he practises following the fracture to its utmost ramifications. This is a policy which is entirely new, and the practise of which I have never heard of before. There is a large class of fractures of the skull, which do not demand operative interference, which recover without operation; and if it is wise and good surgery to follow up a fracture which has been discovered in the presence of an operation, why then should the operator not expose fractures which are not compound in character? The principle which has governed surgeons in this matter has been the idea of the relief of compression from hemorrhage; and if there is no intracranial oozing from a non-depressed fracture of the skull the surgeon has seen no good reason for following it up. I might refer to the statistics of Phelps in which he shows that something like 50 per cent. of fractures of the base of the skull recover. There is no place in the skull where compression from oozing from the seat of fracture is accompanied with more danger; and yet something like 50 per cent. of these cases, which are not operated on, recover. In a very much larger proportion of cases of fracture of the vault, non-compound in character, recovery takes place without operation, and surgeons have seen no reason for exposing these fractures and pursuing them. If the policy of the reader of the paper were followed, we should find, in a very large percentage of fractures of the vault, the surgeon pursuing the fracture down to the base, as we know, an extremely common occurrence is the involvement of the base of the skull in fractures of the vault. I regret that the author of the paper did not explain to us more fully why this policy is practised in his clinic, for it is a surgical innovation.

The use of the chisel in operations upon the skull is a debatable question. The theory upon which the reader of the paper bases his objections is a valid one. But it seems hardly fair to physiology to compare the brain cells with mustard seed; and from an anatomical standpoint the comparison is not an accurate one. We know from experience that the evil effects from the use of the chisel are largely theoretical. In the hands of most operators the chisel is advocated and is used as the chief instrument in many operations. Let us take that most advanced operation in cranial surgery, the plastic operation for exposing the ganglia at the base of the brain, in which a flap of bone is turned down. In the hands of Doyen and many others the chief instrument used is the chisel, and in the cases which have been reported, in which this instrument has been used, no ill effects have been attributed to the concussion which has resulted from its employment. By the methods which we are able to employ in using the mallet and chisel on the cranium the amount of concussion is comparatively small. However, from a theoretical standpoint we must all agree with the reader of the paper that this concussion is objectionable.

The feature which I wish to speak about in these operations, and which has struck me most forcibly, is concerning the amount of bone which the operator has removed in these cases. I am surprised to hear the reports of so large a number of cases in which such large areas of bone have been sacrificed. This, too, is something of an innovation from the ordinary policy pursued in treating these cases. Surgery has taught us that the chief thing is to relieve the pressure; and this is ordinarily done, in cases in which the pressure is due to displacement of bone, by elevating the compressing bone area. In the cases which it has been my fortune to operate upon, this method has sufficed to relieve the compression and the symptoms arising therefrom. This, I am sure, has been the experience of most men who have attacked these injuries. It is with something of surprise that we see presented so large a number of cases in all of which some portion of bone has been removed, and in many of which an extremely large area has been sacrificed. The only indication for removing this area of bone seems to have been that it made some compression upon the brain, and I am sure we shall listen with interest to the explanation from the reader of the paper as to why he has not followed the ordinary surgical policy of elevating the bone fragments and preserving the calvarium instead of sacrificing so much as he has.

H. B. Delatour: Mr. President, during the past twelve years it has been my fortune to treat many fractures of the skull, and, as yet, I have never thought it necessary or wise to follow all fissures to their termination. This particular advice of the paper I wish to add my voice against, for wherever the skull is penetrated and the dura exposed there is provided a point for adhesion of the dura to either the skull or the scar. When this takes place not infrequently we have developed at a later date, sometimes a number of years, epilepsy or other head symptoms. The same objection holds true of the removal of large fragments of bone as exhibited by the young patient who carried about with him nearly half of his right frontal bone.

I believe most thoroughly in the removal of all depressed or splintered fragments of bone and of all blood clots, but cannot subscribe to the unlimited opening up of all simple fissures.

A. T. Bristow: I must entirely concur in the remarks of my colleague, Dr. Warbasse, in what he has said about the practise of the reader of the paper in following up cracks in the skull, and also in his policy of removing large areas of bone. As far as the use of the chisel is concerned, I personally use it a great deal, and when you take into consideration that you can follow up the course of a crack for drainage with a chisel with a minimum of injury to the skull, and that the method of the reader of the paper requires the removal of at least an eighth to a quarter of an inch of bone throughout the entire track of the crack, I think there can be no question as to the disadvantages of so extensive an injury to the skull. Personally I believe that many of these spiculæ that the doctor speaks of removing in the course of his rongeur operations were made by the rongeur and were not there at all. Cracks, or fissures, are not apt, Mr. President, to result in spiculæ. Spiculæ, as a rule, exist at a point of original injury, whereas a crack is simply a solution of continuity in the line of least resistance and is produced in a very different manner at some distance from the point of original injury. I believe all surgeons will most earnestly deprecate any such interference as that suggested to-night. It is certainly a proper thing for a man in a compound fracture of the skull to follow up a fissure which he has found and drain that to the diploë, because we know that foreign matter such as hair, dirt, etc., is sometimes forced into the fissure and may cause an infection, which may descend by way of the diploic veins into the cranial contents; but the idea that every fissure found in simple fracture should be opened with the rongeur its entire length seems to me rather rash surgery, with which few of us can agree.

One word in regard to fractures of the skull in children. The simple fractures in young children which require operation are few. As a rule unless there appear symptoms calling for operation on young children the operation ought not to be done. With compound fractures it is different. There we see exactly the nature of the injury and it is allowable in that case to elevate the bone, but not, in my judgment, to remove large pieces of bone which it is possible to elevate in the case of simple fractures as claimed in such as these presented to-night, the indications for operation ought to be very plain before the operator should turn down a flap of the skull for the purpose of elevating a depression. It is well known that the skulls of children are thin, relatively cartilaginous, not, as a rule, brittle, and therefore not liable in the same degree as in older persons, to fracture with depression and splintering of the inner table. In children of one or two years I have not infrequently observed distinct dents in the skull, which in the course of a few weeks or less became elevated to the surface. I had in my service at the Long Island College Hospital some months ago a baby of eight months in which there was a triangular dent evidently made by a box corner. The child had absolutely no symptoms whatever, and therefore I did not interfere, the dent subsequently disappearing. That is generally the history in those cases. Children, as a rule, bear very severe injuries to the skull much better than adults. With regard to operative interference in the bad compound fractures, as a rule children survive operations which would not be tolerated by older people, but because of this tolerance they should not be subjected to unwarrantable interference. I very much deprecate a practise which insists on operation on every fracture of the skull in an adult and would interfere in all cases of young children.

Dr. Browning: I wish to thank the reader of the paper for saying a word against the use of the chisel. I have seen it used at times when it made me shudder, where there was the supposition that pus might break through or where hemorrhage was in progress or there was danger of starting afresh a hemorrhage already stopped. In addition to that there is the possible injuring of the nerve tissue. It is difficult to prove this latter danger. While plenty of cases may go through without any evil result, I cannot but believe that harm will follow in certain cases, and if that procedure can be eliminated it seems to me very desirable to do so.

Dr. Blaisdell: I have been operating for seventeen years and cannot therefore be entirely mistaken in my expressed opinion. Dr. Delatour says it is bad surgery to take away a piece of the skull. I cannot agree with him. Elevation alone is not sufficient and nature's effort at repair, throwing out callus, etc., often does great mischief and leads to the very condition we would avoid. I believe a crack unfollowed will produce more damage than to take away an eighth of an inch as *this* rongeur does. Spiculæ are not caused by this instrument. In the case shown where the roof of the orbit was removed it was imperatively demanded by reason of the spiculæ and sequestræ which were present. Within two years the opening made by the rongeur will be so filled as to be almost unrecognizable. I have taken away many pieces from the skull and have never yet seen any bad results follow. There certainly has been no impairment of mentality.

Dr. Fleming will remember a case where the piece removed measured 4x2½x2¼ inches, practically the whole vault of the skull. The patient recovered, lived four years, and died finally of pneumonia. This was a case of Dr. Fleming's and therefore not cited in my paper.

I firmly believe that no surgeon has a right to teach the use of the chisel, for the reason that he cannot convey to the student the proper handling without which it is an instrument of danger. I say let the advocate of the chisel take the same blow on his skull and I think he will find it has sufficient force to knock him down.

Dr. Browning has referred to the injury to nerve tissue. I believe a change does take place due to the stroke of the hammer, how great a change it is impossible to say. If we admit that such a change is possible, the mallet and chisel should be cast aside for that reason alone.

Dr. Bristow has spoken of the chisel cutting a thinner line and as being generally preferable. I have seen one of the best surgeons in this country, operating on a child, with two blows of the mallet make a crack over four inches long in the skull, and he discarded the mallet and chisel from that time.

The skulls of all children are not soft or elastic as I have found when operating so many times for micro-cephalus. The skull will be found in many instances to be not thicker than a paper cutter, but it cannot be cut through with an ordinary rongeur. It is like ivory. A blow with a mallet on a skull like this will make a crack clear to the base. Dr. Bristow has said that many simple fractures get well and for that reason should be treated conservatively. He does not say, however, that all these cases get well; how shall we judge then in these cases? My contention is that we should cut down on all cases of fracture simple or otherwise. It can do no harm, and often shows us the mischief that has been done in the so-called simple cases. I do not believe that it is good surgery to do otherwise.

I am well aware that I am getting away from the surgery of this region, as it is practised to-day, but in my hands my method has been very successful.

I have lost, up to date, but four and a half per cent. of cases and I think such figures in fracture of the skull are sufficient to maintain the arguments I have put forth.

(To my assistant in these cases, Dr. Thomas H. Hull, I desire to give the recognition which is his due for his untiring zeal and energy which have done much to bring success in these operations. To my friend, Dr. Frank J. Monaghan, for his assistance in collecting the materials for and editing this article, my thanks are also due.)

TREATMENT OF ACUTE ANTERIOR URETHRITIS.

BY WILLIAM E. BUTLER, M.D.

Acute anterior urethritis is an inflammation of the mucous membrane of that portion of the urethral canal extending from the membranous urethra to the meatus.

Two varieties present themselves for study—the mild, due to contact with irritating discharges during menstruation, from a leucorrhea, cancerous diseases of the cervix or uterus—conditions in which a diplococcus, morphologically identical with the gonococcus, and which may lead to a diagnosis of true gonorrhea, is present—and at times to the lighting up of an inflammation in a sensitive spot from a previous trouble—caused by prolonged sexual excitement.

In this type the incubation period is shorter, the course milder and more amenable to treatment, in fact, may cease spontaneously in a few days without treatment. Simple cleanliness, and the use of astringent injections usually suffice to speedily bring about a cure. The second variety, the severe type, generally caused by the gonococcus of Neisser, is the one with which we will deal, and the one where an expert knowledge of the conditions favoring the development of the organism, and an understanding of the pathological changes taking place in the mucous membrane are absolutely necessary to the successful and scientific treatment of the disease.

Normally the fluid in the urethral canal is acid in reaction, and as it has been demonstrated that the organism develops most rapidly in an alkaline medium, all the conditions favorable to its development are present during the sexual act with its physiological congestion and consequent increased secretion of alkaline mucus.

Anything tending to keep up this state of erection, as alcoholics, long-continued sexual excitement, the reading of erotic books or the seeing of suggestive plays, will keep up the supply of the best culture medium for the gonococcus.

When the organisms are deposited in this culture medium they develop rapidly, and then emigrate through the epithelial cells into the subepithelial coat and set up by their irritant effect an acute hyperemia. All the glands are affected and mucous and epithelial cells are thrown out in abundance into the canal. Leucocytes transude from the dilated capillaries and the fight between the cocci and the phagocytes begins which finally ends in the mastery by the phagocytes, the decrease in the congestion, and the gradual return to the normal. During this process the entire mucous membrane is involved and the inflammation extends steadily downward by the canal and through lymphatics to the bulbo-membranous junction, where, without treatment, it arrives about the twentieth day. It is important to remember that the glands are the last to recover from the inflammatory process and if the treatment is too quickly discontinued we may have a return of the discharge.

It is an axiom in medicine that to cure disease we must remove the cause, but as a good general does not utilize his entire force to attack the enemy, but uses a part of his energy to put his defenses in the best possible order, another to keep his camp in sanitary condition, and a third part to meet the emergencies as they arise, so we, to treat successfully must not only try to destroy the germ, but must put and keep our patient in the best physical condition, instruct him in cleanliness and the prevention of the spread of the disease, and, finally, combat the different symptoms as they arise.

First, then, we look to the general condition of our patient. Is he anemic? Is that most vital reserve force, the blood, with its numbers of leucocytes, in proper shape to aid us in the attack? If not we direct part of our treatment to that. The emunctories are carefuly looked after. Any heart, liver, or kidney lesion with its accompanying circulatory disturbances should be treated.

As the stomach will probably be loaded with medicine which is very apt to disagree, the patient should be warned against any indiscretions of diet.

How often do we hear the remark, "Oh, the clap is only like a cold in the head, I don't mind it much." This is a fallacy that is strongly intrenched in the mind of the laity, and, I am ashamed to say, all too largely held by the profession. Let me urge, right here, the treating of these cases seriously, not laughing at the young man who may come with his first attack and who, if laughed at, will go away with the idea that the disease is not so bad after all.

Be sure, that if this idea is taken away from the doctor's office the treatment will not be fully carried out and the benefits of scientific treatment will not be obtained.

Let the patient see that you are very careful not to handle the dirty cotton, but put it with another piece in a special receptacle; also that you avoid touching the penis as much as possible; that your instruments are clean and are put into an antiseptic solution; that all pieces of cotton used are thrown into the receptacle, and that after all the treatment is over all the instruments are cleaned, and that you carefully scrub your hands. I go particularly into this as I consider the object lesson of as much value as the instructions you give him. It teaches him cleanliness, and in that way prevents him from reinfecting himself and allows the other members of his family and his friends at the club to escape a gonorrheal ophthalmia.

The first lesson in sanitation is, therefore, the general cleanliness. In the care of the discharge I advise my patients to buy a gonorrhea bag, linen (without rubber lining) if the prepuce is short and the patient can be trusted to follow directions, and not to use the prepuce as a bandage for the soiled cotton. Rather have the patient draw back the prepuce if very long and thus, in a measure, prevent a balanitis. The dependent position of the penis favors the drainage and does not materially increase the congestion. Do not have bag tight about penis. If there is much discharge, instruct him to change the cotton frequently, to urinate, and at the same time to wash off the glans with some antiseptic. I prefer for this purpose a solution which contains formaldehyde.

The absolute avoidance of alcoholics, sexual excitement and every thing tending to increase the urethral congestion should be thoroughly impressed.

The value of internal treatment for the cure of the disease is, to my mind, much over-rated. That it does alleviate some of the symptoms I will admit, but I have yet to see a case where I could fairly say that the disease itself was much modified; as soon as the drug was discontinued the discharge would return, with much of its former severity. Cubebs and copaiba pushed to their limit do exert some influence on the discharge, but both upset the stomach and thus weaken our line of attack through the physical condition being impaired. Sandalwood oil does not upset and if used discretely will modify the ardor urinæ, pains in the loin and diarrhea are the signals for lessening the dose.

Large quantities of water increase the flow of urine, and as the patient must urinate more frequently the canal is kept cleaner.

Of the symptoms that arise in the course of the disease, chordee is probably the most distressing. As this is dependent on the severity of the inflammation, I believe that in a large number of cases it will not be present if the disease is seen in the first stage and the treatment has been right. As this condition is due to an erection everything that tends to divert the mind from the organ should be employed; large doses of bromide have some effect; in my experience, not much. The best and simplest is the application of cold to the organ, either in the shape of cold cloths or ice-bag.

I have seen some effect from injections or solutions of the suprarenal capsule extract. It should be left in for some time, the washing out by the next urination will carry out any surplus and prevent decomposition.

The intense ardor urinæ is overcome by the use of santal oil and immersing the penis in hot water, I should have said partially overcome; I have met with nothing that would entirely do away with it.

Hot water relieves in a measure the prepucial edema and the painful, swollen lymphatics on the dorsum.

There is another symptom that is present in quite a number of cases, that is the melancholia that seems to take such a firm hold of some patients, especially in those cases where the disease is severer and continues longer than usual. This is a symptom, that is probably due to toxin absorption, but at times is least apparent in those patients who have the largest amount of confidence in you. Therefore, keep their confidence and do not promise too much in the beginning, better to say it will take a week longer than that you can cure it in a short time.

We now come to the real point of attack and that is the local treatment, which should be directed to the destruction of the gonococcus mainly, as that is the cause.

This process is accomplished mechanically by the washing away of large numbers of organisms and reducing the amount of culture medium and antiseptically by the direct destruction of gonococci in the tissue.

Although the method will be somewhat different in the different stages of the disease, the principle is the same.

The ideal time to get a case of acute urethritis is at the very commencement, when the pearly drop appears at the meatus. Here we have an inflammation at the very commencement of the canal, and the organisms have not penetrated deeply into the membrane.

Have the patient urinate to mechanically remove secretion in the canal, then wash out with the Janet irrigator modified and brought into prominence by Dr. Valentine, using a solution of permanganate of potassium; I make it a claret color, not very scientific, but accurate enough. There is a point which I especially wish to bring out, and that is, that the urethra should be tightly constricted with the last three fingers and palm of the left hand a couple of inches from the meatus; this prevents the carrying of any organisms further up the canal. With this constriction the point of the irrigator may be pressed against the meatus and the canal ballooned out, the solution entering all the folds of mucous membrane. I then, with a hard rubber syringe, soft rubber point, inject enough of a 5 to 10 per cent. solution of protargol—an albuminate of silver nitrate—to fill out the urethra, let it flow out and repeat the process. This is carried out twice a day, if you can get the patient to come so often. I have never had much trouble in persuading my patients that if they did come they would be cured in a short time and that if they allowed the disease to get well under headway it would last quite a long time in spite of treatment. Under this treatment I have seen the discharge disappear in two or three days in cases where all the symptoms pointed to a bad case. I rarely give any internal medication at this period, except it be urotropin or cystogen, in seven grain doses three times a day. This drug is said to break up into formaldehyde in the system and to be excreted in the urine, as such exerting its effect on the organisms in the urethra.

If the discharge continues for more than two or three days I make an endoscopic examination and generally find that the large lacunæ and perhaps the smaller ones are involved; in these cases a local application of strong nitrate of silver solution or pure ichthyol directly to the spot is made.

If the case does not come early, the same treatment should be carried out and the patient should then be instructed in the use of the urethral syringe and told to inject two or three times a day with about 1 to 1500 formaldehyde solution. Care should be taken that the fluid is not forced in too far; after washing out the urethra they inject with the astringent wash a tablet made up of lead, zinc and morphine acetate and hydrastin.

In a number of cases I have used a solution of formalin 1 to

500, in one case I used a much stronger solution and set up a severe inflammation.

Nitrate of silver and ichthyol have been much lauded and have given good results in my hands. Some cases seem to be benefited by one and others by different remedies; the above I have found most satisfactory.

DISCUSSION.

Dr. H. H. Morton: Mr. President and Gentlemen: I have been very much interested in hearing Dr. Butler's paper and I am glad that he impresses the point strongly, that gonorrhea is a serious disease and much to be dreaded.

Indeed I think the statements made by some men of large experience is a correct, conservative one.

It is, that if a man had his choice between gonorrhea and syphilis, it would be better for him to have an ordinary case of syphilis, as we see it to-day, rather than a severe case of gonorrhea with the attending complications of stricture, prostatitis, etc.

It is rather curious to think that while gonorrhea is as old as man himself, our ideas of its pathology and etiology should be of such recent date, for it was only sixty years ago that Ricord settled the point that urethral discharges were not syphilitic, and then fifty years elapsed before Neisser discovered the gonococcus which bears his name. The actual pathological changes were not worked out until some years later, and we may say that our knowledge of gonorrhea has only been complete within the last half dozen years.

With regard to the gonorrhea bag spoken of by the writer of the paper. The only suitable one is made without a rubber lining. The rubber lining acts as a poultice and favors congestion of the penis.

I am very glad to endorse the opinion that internal treatment is of very little avail in cases of gonorrhea. The use of sandalwood oil cannot lessen the discharge, but it diminishes vesical tenesmus and acts almost like a specific in posterior urethritis.

The main reliance in the treatment of gonorrhea at the present times is in the local application of irrigation or injections, particularly irrigations. In the last few years the treatment by irrigation with permanganate of potash, introduced by Janet of Paris, has increased in popularity, as it certainly shortens the duration of the disease. In an ordinary case of gonorrhea treated with balsams and injection the patient was fortunate if he got well in six or eight weeks, and in military hospitals, when the patient was kept in bed and on a milk diet, it took about forty-five days on the average.

By the use of the Janet irrigation we are able to cut short the disease considerably. Some few years ago Goldberg of Cologne collected statistics of 300 or 400 cases of gonorrhea treated by the Janet irrigation. He found that in 60 per cent. of the cases as reported the discharge ceased entirely and the gonococci could not be found after ten days; in 30 per cent. the disease lasted two or three weeks and in the remaining 10 per cent. it lasted a considerably longer time.

My own personal experience with the Janet irrigation is not so favorable as that. I took ten cases in my private practice, as they came in. Four of these were completely cured in six to eight days; the discharge stopped entirely and there were no shreds in the urine. In four of the other cases the purulent discharge ceased in from five to seven days and was followed by a serous, watery discharge, lasting two or three weeks, but which finally stopped under persistent irrigation.

In the other two cases the pus discharge lasted twenty-one days and was followed by a watery discharge, and in the other case the pus discharge lasted seven days and then improved, but there was a relapse and then purulent discharge continued.

The Janet irrigation has the effect of lessening the inconvenience and suffering of the patient. The burning on urination is not so marked, there is very little chordee and they are less apt to have posterior urethritis and other complications, and, while it is a great inconvenience to the patient to have to be irrigated twice a day, still they are willing to put up with it for the sake of the amelioration of the symptoms.

We have also heard a great deal in the last few months of the silver salts—the chemical combination of silver with a proteid base—which is said to be destructive to the germs.

Neisser makes the statement that protargol is the best means of treating gonorrheal discharges.

The earliest reports were the most favorable and cases were related which were cured in from three to four weeks by the injection of protargol or argonin. Of late, however, the tide is turning again, and some cases which were reported by Kopp in the *Berliner med. Wochenschrift* would seem to show that protargol and argonin are not as useful as it was at first hoped they would be. Kopp reports seventeen cases treated with protargol and after three months' treatment gonococci were still present in nine of them.

In using argonin twenty-three cases were reported and in only two did the gonococci disappear after four or five weeks' treatment.

In conclusion it seems to me that up to the present time the Janet irrigation is the best method of treating gonorrhea which has been brought forward.

Dr. Butler: As to the gonorrhea bag which Dr. Morton speaks of, I use only the one without the rubber. I do think the rubber bag makes a poultice and is a horrible thing. You can get along without the gonorrhea bag in most cases, but where you get that greenish discharge pouring out all day you cannot let it run down a man's legs; you must have cotton and he would not change it often enough to keep himself clean, and it is necessary to avoid the infection spreading to other people. The results obtained lately from protargol are not as good as formerly; it is in selected cases that protargol does good, and others it does not affect. I have combined the two, using irrigation and then protargol. Nothing has been mentioned of the use of the suprarenal extract. I would like to know if anyone else has used that. I have used it for intense ardor urinæ; it constricts the arterioles and enlarges the canal and in that way does away with some of the pain.

WARD VS. ST. VINCENT'S HOSPITAL.

A disagreement was the result of the suit of "Ward against St. Vincent's Hospital," Newark, to recover damages for burns caused, it was claimed, by negligence on the part of a nurse in the use of a hot-water bag.

The Appellate Division of the Supreme Court rendered a decision on this case some time ago, in which it said:

"Though the defendant is called a charity hospital, it has its pay side, on which side it is in the habit of furnishing private rooms and nurses to well-to-do persons for a full price, thus entering into an express contract. For the breach of that contract the plaintiff is entitled to the same damages as though the action had been for negligence pure and simple, and she is entitled to an adequate compensation for her injuries.

THE BROOKLYN MEDICAL JOURNAL.

Communications in reference to Advertisements or Subscriptions (Subscription Price $2.00 per annum) should be addressed: Business Manager, BROOKLYN MEDICAL JOURNAL, 260 Hancock Street, Brooklyn, N. Y.

Exchanges should be addressed: BROOKLYN MEDICAL JOURNAL, 102 Court Street, Brooklyn, N. Y.

Books for Review and Articles for Publication should be addressed: BROOKLYN MEDICAL JOURNAL, Polhemus Memorial Clinic, Brooklyn, N. Y.

Remittances should be made by money-order, draft, or registered letter, payable to BROOKLYN MEDICAL JOURNAL, and addressed to Business Manager.

Authors desiring Reprints of their papers should communicate with Rooney & Otten Printing Co., 114-120 West 30th Street, New York, stating the number of Reprints desired, and the number of JOURNAL pages their papers will occupy, allowing 470 words to a page.

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EDITORIAL.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

In the March issue we referred briefly to some of the measures which came up before the State Society at its last annual meeting, the ninety-fourth in its history. In the present issue we desire to continue what was there begun by referring to other matters which came before the Society.

In the discussion of Dr. Moore's paper on "The Preparation of Tuberculin," it appeared somewhat doubtful whether this agent was of any utility in the diagnosis of tuberculosis in the human being, although it is doubtless of great value in cattle. The statement of Dr. Ross that young cattle were affected through the intestinal tract, as a result of swallowing tubercular sputum, is extremely interesting and suggestive from a practical standpoint.

The anniversary address of President Macdonald on "The Relation of the Clinical Laboratory to Modern Surgery" was a plea for thorough and scientific testing of everything used by the surgeon, and of the blood and urine of the patient who was to be submitted to operative procedure.

Dr. George T. Jackson discussed "The Care of the Hair." This portion of the human anatomy has received too little scientific attention in the past. Persons suffering from loss of hair are more likely to consult the barber than the dermatologist as to remedial measures, much to their own disadvantage and to the pecuniary gain of the "tonsorial artists," some of whom have grown rich by the sale of their "hair restorers." Dr. Jackson believes that the disuse of pomades and occasional washings accounts for the increase in baldness.

President Raymond of Union University delivered an address on "Education and the Profession of Medicine." Dr. Raymond is not a believer in beginning the specialization of education too early. He thinks the man should be first educated, then the lawyer or merchant. What is needed in this country is such a remodeling of the existing educational system as will enable a man to receive a sufficient primary and professional education and begin the practise of medicine at the age of twenty-five years.

Rev. James M. Buckley discussed "Rational Therapeutics versus Christian Science and Similar Superstitions" in the masterly manner he does every subject he handles. The downfall of Christian Science, and that by its own agency, he predicted would not be long delayed.

Dr. H. Beeckman Delatour reported a case of gastrotomy and one of gastrectomy, in the latter of which cases the patient was delivered of a healthy child at full term.

The following officers were elected for the ensuing year: President, Dr. A. M. Phelps of New York; Vice-President, Dr. George Seymour of Utica; Secretary, Dr. F. C. Curtis of Albany; Treasurer, Dr. O. D. Ball of Albany.

PRACTICAL REFORM OF ONE HOSPITAL EVIL.

Under the above title Dr. Jacobson discusses, in a paper published in another portion of this issue, a subject which is now attracting the attention of the profession of New York City more than any other. That the evil existed, which the new method proposes to reform, cannot be denied by any one who is at all conversant with the facts. We are informed that one institution, which in a single year took care of one hundred women in their confinement, received $6000 from the city for such service, or $60 for each confinement case.

The authority to fix the rate of payment to institutions for their maintenance of the city's poor is lodged in the Board of Estimate and Apportionment by Chapter 196, Laws of 1899, and the manner in which the $160,000 appropriated for 1900 will be distributed, should be a most important help to the city authorities in determining what the city's future policy will be in reference to the maintenance of its sick poor. The two methods are of course (1) the establishment of hospitals throughout the city, to be entirely maintained by the city, and (2) the present method; *i.e.*, the care of the poor in the existing city institutions so far as that is possible and proper, and the distribution of the others to existing private institutions whose trustees shall be reimbursed therefor by the city. We venture to say that the determination of the relative merits of these two methods is the most important medical problem which the city will have to solve in the near future, and the profession should not delay in taking this matter into careful and deliberate consideration, for in its solution they can, if they will, take a prominent part.

◆

THE PATHOLOGY OF THE COMMON COMMUNION CUP.

If the Brooklyn Pathological Society had done nothing else in its long and eventful history than to give to the profession and the public the information contained in the report of its 408th stated meeting on the dangers attendant upon the use of the common communion cup, it would have amply justified its *raison d'être.* Nowhere in the English language is this important matter more ably or more exhaustively presented, whether it be looked at from the standpoint of the general practitioner, the dentist, the aurist, the syphilographer, the bacteriologist, the surgeon or the minister.

There may be those who are sceptical as to the danger of infection from this source; if so, we commend to them the facts quoted in the contribution of this Society to the literature of medicine. The actual finding of the bacilli of diphtheria in the cups used at a church service after the use of which an epidemic of diphtheria broke out, would seem to be a demonstration which must satisfy every one. The syphilitic patients from the venereal wards of Blackwell's Island are in the habit of partaking communion with the other attendants upon Divine worship, and all from the common cup! The possibilities, nay, the probabilities, are too horrible to contemplate.

It is sincerely to be hoped that the influential body of scientific men who compose this Society will by the broad dissemination of these valuable papers so educate the church-goers of this and other communities that the adoption of the individual cup will be universal, and the further use of the common cup condemned as dangerous and disgusting.

PROGRESS IN MEDICINE.

OBSTETRICS.

BY CHARLES JEWETT, M.D., SC.D.

PUERPERAL TETANUS SUCCESSFULLY TREATED WITH ANTITETANIC SERUM.

Leyden (*Berlin klin. Wochenschr.*, 1899, No. 29) reports the following case. A woman, three months pregnant, sustained injuries by a fall. She immediately aborted, tetanic symptoms appearing on the 14th day after the accident. A solution representing 15 grains of Behring's solid serum was injected into the dural sac and 30 grains of Tizzoni's serum were given hypodermically. The patient received also hypodermic injections of morphin amounting to one and a half grains and was given thirty-seven grains of chloral by the mouth during the first 24 hours. The convulsions were still violent and were excited by the merest touch. There was complete trismus with severe dyspnea during the paroxysms. Nutrition was maintained mainly by rectal feeding. Seven days after the first injection of antitoxin a solution containing 45 grains of Tizzoni's serum was given subcutaneously. On the following day a subdural injection of 12 grains of Behring's serum was given twice. Two days later 30 grains of Behring's serum were administered subcutaneously. Some rise of temperature followed the injections and one of the subdural injections caused considerable pain. Improvement began on the 9th day of the disease, and on the 17th convalescence was making satisfactory progress.

ATMOKAUSIS.

Schlutius (*Wien. med. Presse,* 1899) has had good results in 50 cases in which he has practiced intra-uterine injections of steam chiefly for the control of hemorrhage. Hemorrhage due to hyperplastic or to gonorrheal endometritis was promptly relieved. The fetor of necrotic secundines disappeared completely after a single sitting and in several instances cervical catarrh was treated with marked success. In severe cases of fibroid disease more or less atrophy of the tumors followed the use of steam. In one case of inoperable cancer death was apparently hastened by disintegration of growth, though hemorrhage and fetor were temporarily relieved. S. praises the method as a safe and efficient hemostatic. [Atmokausis would afford a remedial measure of great value if its action could be definitely controlled. Unfortunately for its popularity several cases have been reported in which complete obliteration of the uterine cavity has followed intra-uterine applications of steam.—J.]

CHOREA GRAVIDARUM.

Barkhaus (*Centralbl. f. Gyn.,* 1899, No. 16, Ed., *Med. Jour.,* Jan., 1900). A case of chorea gravidarum, which ended fatally was recently observed in the Lying-in Hospital, at Leipsic. The age of the patient was 21 years. She had never had rheumatism or cardiac disease. The choreic manifestations were first noticed at about the sixth month of pregnancy. The disease rapidly assumed a grave type, the symptoms becoming so severe that labor was induced in the ninth month of pregnancy.

The choreic movements persisted after delivery. She became comatose and died two days later, apparently from exhaustion. The autopsy revealed hyperemia of the pia mater, acute endocarditis, slight dilatation of the ventricles and bronchopneumonia.

In a case observed by Donat, progressive muscular twitching had come on at the fourth month. The woman became exhausted and subcutaneous hemorrhages developed over the entire body. The uterus was evacuated and in six weeks the choreic symptoms wholly disappeared.

Sänger, referring to this subject, calls attention to the fact that there is a marked distinction between the benign form of chorea corresponding to that of childhood and the malignant variety. The latter is always complicated with disease of the brain, heart and kidneys. The former, being probably reflex, disappears after emptying the uterus, while the latter is not affected by delivery.

GYNECOLOGY.

BY WALTER B. CHASE, M.D., ASSISTED BY CARROLL CHASE, M.D.

LIGATION FOR UTERINE FIBROIDS.

Dorsett (*Gync.*, August, 1899) says: "Although I once was enthused with the belief that it was a feasible undertaking to treat successfully uterine fibroids by the ligation of the uterine arteries per vaginam, I now know in the light of subsequent experience it is not worth the trial, and I consider the ligation of the broad ligament, en masse, which means a thorough obliteration of arteries, veins, nerves and the like, contained in the broad ligament, as practised by Martin, as unworthy of a place in medical literature."

CAUSES OF STERILITY.

Lefèvre (*La Gynécologie*, August, 1899; *Buffalo Medical Journal*) dwells on certain complex causes of sterility. A woman may be barren owing to a single definite pathological condition. Very frequently, however, it is quite otherwise. In eighty-four cases of sterility, observed by Doléris and Lefèvre, several pathological conditions, none of themselves sufficient to prevent conception, were detected in combination in sixty-six. This group of factors together effective in maintaining sterility consists of catarrh of the cervix, conical cervix, stenosis of the os externum, acute anteflexion, and free prolapse of the posterior vaginal wall. Hence treatment should be directed to all these complications, else failure will be certain. The endocervicitis will require the curette, or if the mucosum shows intractable changes, amputation of the cervix, after Schröder's method. That operation is also required when the cervix is conical or stenosed, so as to furnish the patient with an os externum wide enough to admit semen. Acute anteflexion is best met by frequent dilatation. If it tend to return, a stem pessary, a colporrhaphy in front of the cervix will be required, whilst posterior colpocele will demand retrocervical colporrhaphy; forty-nine of the sixty-six cases were treated on these principles. In eight the treatment clearly failed. In ten pregnancy has not yet occurred, but either the after-history was too short or there were other factors present accounting for sterility, such as impending menopause (2), uterine fibroid (2), great obesity (1), and the like. There remained twenty-four cases where success was evident, nineteen patients having borne one child, three patients two children, and two patients three children after treatment.

THE TEMPERATURE AFTER INTRA-PERITONEAL OPERATIONS.

McMurtry (*Annals of Gynecology and Pediatry,* Oct., 1899) says: Fever is the most constant accompaniment of inflammation, and is the first effect of the inflammatory process upon the general organism to be manifested. While pathologists may differ as to the mechanism of this morbid process, all practically concur that pyrexia is due to the presence in the blood of substances capable of causing it. Such substances are afforded by various systemic diseases and infective fevers. That ptomaines evolved and absorbed in the course of gastro-intestinal disturbances are common causes of elevated temperature. The chemical products of bacterial activity are the substances most familiar to the surgeon as causes of febrile action. Tissue necrosis, even without associated bacterial invasion, will beget fever; and fever often accompanies subcutaneous injuries, such as simple fractures, wherein infection is impossible except by bacteria circulating in the blood. Experimental study of fever by Kohler and others indicates that fibrin-ferment when set free in extravasated blood absorbed through surrounding tissues will cause fever. Another substance found in blood-clot and breaking-down tissues, known as nuclein, will have the same effect, it is claimed. A careful study of the phenomena of shock will convince one that certain nervous influences may exert a potent influence in causing fever, quite independent of any infection.

As practical surgeons the subject under consideration is of the greatest interest in its relation to wound infection. Before the antiseptic era all operation wounds were infected, so that so-called "surgical fever" was the constant and inevitable accompaniment of all wounds. When modern methods enabled the surgeon to obtain primary union after operation without inflammation, it was naturally to be expected that no fever would accompany aseptic repair of surgical wounds. It was observed, however, that an elevation of temperature commonly follows all surgical operations of magnitude, even when a painstaking aseptic technic has been observed and primary union follows. The researches of Billroth, Volkmann and Bergmann upon this form of post-operative pyrexia are most interesting and important. Billroth attributed this rise of temperature to the absorption of tissues in, and contiguous to, the wound, which had been devitalized and broken down by the traumatism of the operation. He termed it "traumatic fever." Bergmann ascribed the pyrexia to the absorption of fibrin-ferment, which I have already mentioned as shown by experiment to cause fever. He suggested the term "fermentation fever." Volkmann attributed the condition to the absorption of disorganized tissue in the wound, and proposed the term "aseptic fever."

These observations are of great interest to all surgeons, and deserve especial consideration from those constantly doing abdominal and pelvic surgery. The ominous significance of an elevated temperature immediately following abdominal section is appreciated by surgeons generally. The relation of this symptom to post-operative septicemia makes its careful study and elucidation of the utmost moment.

The essential and all-important point in this inquiry is as to whether there is such a post-operative fever as to justify Volkmann's term of "aseptic fever." In well-appointed and properly conducted hospitals where primary healing is the rule, it is constantly demonstrated that immediately after abdominal section (beginning in the afternoon of the day of operation and lasting from twenty-four to seventy-two hours) there is a rise of temperature ranging from 99.5 F. to 101 F., even in cases of aseptic healing without suppuration. Clinical observation daily confirms the experimental demonstrations of Welch, that the blood is endowed with positive germicidal power capable of overcoming pyogenic bacteria, so that wounds heal primarily and aseptically despite minor degrees of infection. The efficiency and limitation of this resisting function of the blood depend more upon the quantity of infecting material (the number of germs) than anything else. The difficulty and imperfection of skin disinfection, both as to the field of operation and the surgeon's hands, are so well known that it is apparent that a slight degree of infection obtains in all operation wounds and does not lead to suppuration nor necessarily prevent so-called aseptic primary union. Hence, primary union cannot be accepted as absolute proof of perfect freedom from germ infection. So-called aseptic fever in many instances is in reality the result of a minor degree of infection.

The magnitude and extent of this minor degree of infection must of necessity vary within wide limits. It may extend all the way from a so-called aseptic fever to the marked febrile action of undoubted infection. Premature exposure and dressing of operation wounds favor infection; and if we are to avoid such unnecessary exposure we must be able to interpret correctly the rise of temperature. On the other hand, if drainage is to be established and tension relieved on account of infection, the opening of dressings is a necessity which cannot be disregarded. In this the thermometer is our principal guide.

In determining this important point all the ordinary systemic diseases which beget fever must be excluded. Among these I would especially mention malarial fevers and typhoid fever. Gastro-intestinal disorders with absorption of ptomaines are frequent causes of fever, and this can be readily determined and corrected by a brisk purgative. The characteristic pulse will give aid in detecting a pyogenic fever: the pulse rising with the temperature.

The distinguishing peculiarity of all the absorption fevers, including so-called aseptic fever, is their manifestation immediately after operation. The profound infection which prevailed in the pre-antiseptic days rarely manifested itself before the end of the second or beginning of the third day. The temperature of a stitch abscess does not appear until much later. The absorption fever which has been termed aseptic may quickly subside, or it may persist for many days, and give much anxiety in a case where all other symptoms are favorable. As already stated the pulse will usually afford valued assurances of safety.

All cases of immediate fever following abdominal operations, however, are not to be attributed to absorption. In a certain proportion of cases the fever is due to the reaction that follows shock. The action of prolonged anesthesia on the kidneys, heart, stomach and lungs may have much to do with this, when every precaution is taken to prevent shock by the retention of body heat. Here again the rate and quality of the pulse will aid in excluding sepsis.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, Tuesday, February 20, 1900, held in Apollo Hall, Brooklyn.

The President, L. S. Pilcher, in the Chair.

There were about 75 members present.

The minutes of the previous meeting were read and approved.

REPORT OF COUNCIL ON MEMBERSHIP.

The Council reported favorably on the following applicants:
A. S. Erdmann, L. I. C. H., 1897.
A. P. Northridge, L. I. C. H., 1898.
W. S. Johnson, L. I. C. H., 1899.
W. J. Brinkerhoff, L. I. C. H., 1892.
W. M. McAlpin, Med. Chi., Balt., 1886.
H. C. Keenan, P. & S., N. Y., 1895.
A. S. Talmadge, L. I. C. H., 1881.
C. F. Hermann, L. I. C. H., 1898.
Martha J. Peebles, Woman's Med. Col., N. Y., 1897.
Jennie S. Edwards, Woman's Med. Col., N. Y., 1897.
John Horni, P. & S., N. Y., 1896.
V. J. Klein, N. Y. Univ., 1897.
F. B. Otis, P. & S., N. Y., 1896.
E. Edman, N. Y. Univ., 1889.
G. F. Leyh, Jr., N. Y. Univ., 1890.
J. C. Neilson, L. I. C. H., 1898.
R. C. Williams, Trinity Col., Toronto, 1898.
Hugh E. Rogers, L. I. C. H., 1898.
E. J. Kenney, L. I. C. H., 1890.
J. Koepke, Bell., N. Y., 1890.
F. S. Senior, L. I. C. H., 1892.
A. M. Van Sickle, P. & S., 1896.
Geo. J. Mahr, N. Y. Univ., 1895.
M. J. Malament, L. I. C. H., 1898.

F. C. Paffard, L. I. C. H., 1896.
H. Russell, L. I. C. H., 1896.
F. R. Baker, P. & S., 1889.
F. E. Carpenter, L. I. C. H., 1883.
Vincent Barber, Queens, Can., 1897.
J. J. Babbington, L. I. C. H., 1894.
Geo. H. Davis, L. I. C. H., 1895.
J. P. Glynn, P. & S., N. Y., 1894.
A. C. Howe, N. Y. Univ., 1893.
R. H. Herkimer, L. I. C. H., 1892.
K. F. Junor, N. Y. Univ., 1886.
Alex. Koch, Heidelberg, 1886.
T. A. Jenkins, Bell., N. Y., 1897.
E. F. Luhrsen, L. I. C. H., 1899.
Wm. MacNamie, N. Y. Univ., 1892.
Chas. A. Phillips, L. I. C. H., 1896.
N. P. Rathburn, L. I. C. H., 1896.
W. J. Wellington, L. I. C. H., 1896.
J. H. Hull, L. I. C. H., 1890.
J. C. Barnhart, L. I. C. H., 1886.

PROPOSITIONS FOR MEMBERSHIP.

The Secretary announced the following:

John W. Parrish, P. & S., N. Y., 1887. Proposed by Wm. H. Northridge and E. H. Bartley.

Charles F. Ferdon, Bal. Med. Col., 1897. Proposed by H. L. Bartlett and D. Myerle.

ELECTION OF MEMBERS.

The following have been duly proposed and accepted by Council were declared elected to membership:

Harlow C. McLeod, P. & S., N. Y., 1899.
Walter Scott Grant, Univ. of Penn., 1899.
Julia E. Hatton, Cornell Univ., 1899.
Ralph Tousey, P. & S., N. Y., 1898.
Fredk. W. Walsh, Med. Col. Balt., 1894.
Augustus R. Gaillard, Med. Col. So. Carolina, 1897.
Stanley H. MacGillvary, Bell. Med Col., 1898.
Isaac L. Doughty, P. & S., N. Y., 1898.
Reginald M. H. Banbury, L. I. C. H., 1897.

Emory M. Wadsworth, Buf. Med. Col., 1898.
Arthur R. Jarrett, L. I. C. H., 1897.

SCIENTIFIC BUSINESS.

Discussion on Rheumatism. Papers:

I. "Classification and Diagnosis in the Light of Present Knowledge." By Glentworth R. Butler.

II. "Influence of Bacteria in the Genesis of Rheumatism." By Ezra H. Wilson.

III. "Thermæro-Therapy in Rheumatic Affections." By George Lawrence Kessler.

IV. "Indications and Results of Surgical Operative Interference in Rheumatism." By Algernon T. Bristow.

Discussion by William Gilfillan, Silas Blaisdell, and Wm. Nathan Belcher.

STANDING COMMITTEES FOR 1900.

The Secretary announced the following:

MEMBERSHIP.

Henry P. de Forest, 369 Hancock St.
Charles E. Clark, 259 Lorimer St.
Edward D. Ferris, 220 Fifty-third St.

DIRECTORY FOR NURSES.

Francis H. Stuart, 123 Joralemon St.
John A. McCorkle, 149 Clinton St.
John Bion Bogart, 423 Washington Ave.

ENTERTAINMENT.

Calvin S. Barber, 57 So. Oxford St.
Charles N. Cox, 257 Jefferson Ave.
Charles H. Goodrich, 280 Park Place.

LEGISLATION.

George W. Brush, 2 Spencer Place.

Edgar A. Day, 659 Putnam Ave.
Russell S. Fowler, 388 Lafayette Ave.

PUBLIC HEALTH.

Elias H. Bartley, 21 Lafayette Ave.
Z. Taylor Emery, 481 Washington Ave.
Joseph H. Raymond, Polhemus Memorial Clinic.

There being no provision in the by-laws for a Legislative Committee or Committee on Public Health, on motion duly seconded the appointment of these Committees by the President was confirmed.

REPORT OF COUNCIL.

The Secretary stated that there was one vacancy in the list of honorary members and that the Council would recommend for honorary membership the name of Dr. John Cooper, who had been a member of the medical profession of Brooklyn for more than fifty years.

On motion duly seconded Dr. John Cooper was unanimously elected an honorary member of the Society.

The Secretary stated that the President had suggested that the Membership Committee be enlarged by the appointment of an auxiliary committee, and that this committee, as a whole, recognize the division of the city into seven sections, each member being assigned to a section, and in this way systematize the further work of securing new members; and moved:

That there be an auxiliary committee of five appointed to the Membership Committee, such committee to be appointed by the Chair.

Motion seconded.

Dr. de Forest moved to amend by making it an auxiliary committee of seven.

Amended, seconded, and carried.

The original motion as amended was then put and carried.

The President: Such a committee will be appointed to coöperate with the main committee, and in connection with this I would like to say that in reflecting upon the conditions of the Society it has seemed to some of its members that one of the most valuable of the functions of the Society was the promotion of the acquaintance among its several members and of the profession of the county at large. Seventy-five years ago when the County Society was first organized all the members knew one another. At the present moment, of the 600 or more members who constitute its membership, there is a very lamentable lack of acquaintanceship and it had seemed that by the division of the county into districts and the placing of each district under the guardianship of a member of this committee, it might be possible for the district leader—if you may choose to call it—to be acquainted with the members of the profession in his district, and meet them here and become the means of making them acquainted with the officers and members of the Society, and possibly it would not be out of place if this committee should meet with the officers of the Society half an hour previous to each meeting, during which time an effort to make members acquainted with one another should be made; and there may grow out from this organization now proposed a valuable means of creating that acquaintanceship and comradeship which will do much to raise the general tone of our profession in the county.

The Secretary announced that following the adoption of the by-law with reference to the formation of sections, the council had received an application from the requisite number of members of the Society for the formation of a Section on the Nose, Ear, and Throat; that the by-laws as required had been submitted and found acceptable and the council had approved of that application. Also that an application had been filed by a number of gentlemen representing Ophthalmology, but the requirements not having been entirely fulfilled, said application was still under consideration.

UNFINISHED BUSINESS.

The Secretary stated that the information, asked for at the last meeting, from the American Humane Society, in reference to prize essays on vivisections, had been received, and read a letter stating that the ground taken by the Humane Society was not extremely against vivisection but sought to secure such control of experimentation on live animals as to curtail the abuse of vivisection. The Secretary further stated that this information had been asked for under the impression that it was a limited invitation, made with a desire to further the Gallagher Bill, which aims to prevent vivisection, but the letter received from the Humane Society indicated that the competition was a more liberal one, and stated the terms and conditions under which the prizes would be awarded.

On motion of Dr. Raymond, duly seconded, the matter was referred to the Committee on Legislation for consideration and report to the Society.

The following resolution, offered by Dr. Raymond at the last meeting, was taken from the table:

"Whereas, it has been stated that a bill is to be introduced into the Legislature of the State of New York at its present session to authorize the transfer to the City of New York of the property known as the Brooklyn Homeopathic Hospital, on condition that the same be maintained as a homeopathic hospital; therefore be it

"Resolved that, with the approval of the council, the Committee on Legislation of this Society be authorized and empowered on behalf of this Society to protest against said transfer and to take the necessary steps to prevent the passage of said bill so far as it lies within their power, on the grounds that the city should not establish sectarian hospitals, that there is no demand for such a public hospital, and on such other grounds as may seem to them applicable to the case."

Dr. Raymond stated that since offering the resolution he had received a letter from Dr. Van Vleet of New York, who informed him that the bill had been introduced and that it provides not only for the maintenance of a hospital and dispensary, but also of "schools;" that whatever may be our view as to the propriety of the city maintaining a homeopathic hospital or a homeopathic dispensary, he thought there could be no doubt about the impropriety of the city maintaining "schools;" he did not move the adoption of the resolution because of any change in his views as to the propriety of the action but because he believed that any action on a resolution of this kind which was not unanimous would fail of its object. He therefore moved:

That this resolution be referred to the council for such action as they may deem wise.

Seconded and carried.

The Secretary stated that he had communicated with Senator Davis, thanking him for his efforts on behalf of the Society, and had received due acknowledgment from him.

COMMITTEE ON DIRECTORY FOR NURSES.

Dr. Stuart, Chairman of this committee, stated that the committee had reorganized the directory and from now on it would be a directory for trained nurses only, and that the profession

JOHN CARGILL SHAW, M.D.

would be duly notified by circular letter of such change. He said further that in the future no charge would be made for sending nurses, and made an appeal to members of the Society to give the directory their support and patronage.

There being no further business, on motion adjourned.

D. MYERLE,
Secretary.

BROOKLYN PEDIATRIC SOCIETY.

The fifth regular meeting of the Brooklyn Pediatric Society was held at Apollo Hall on Friday evening, February 16, 1900, with the President, Dr. Read, in the chair. The scientific program of the evening consisted of a paper on "Croup," read by Dr. Benjamin Edson. This was followed by a discussion in which Drs. Bartley, Kerr, Shaw, A. P. Northridge, Ingram, Hutchinson, Read, and Wm. A. Northridge, participated. Dr. Edson closed the discussion. The members of the Kings County Medical Society are cordially invited to attend the meetings of this Society.

WM. A. NORTHRIDGE,
Secretary.

HISTORICAL DEPARTMENT.

JOHN CARGILL SHAW, M.D.

Dr. Shaw was born on the 25th of September, 1845, at St. Ann's Bay, Jamaica, W. I., and died at his home, 142 Clinton street, Brooklyn, January 23, 1900.

His father, John Shaw, was an Englishman; his mother, Christiana Drew, of English descent.

His primary education was received in the schools of his native place, and at the age of 17 he came to this country with his mother and sister to seek his fortune.

For a time he procured employment with Chas. T. White & Co., wholesale druggists, Pine street, New York. Here he learned the first rudiments of business, and became familiar with the history and physical characteristics of drugs, and formed the idea of becoming a physician. While in this employment he attended a course of lectures given by Professor Chandler, on chemistry, and in 1866 he entered the office of Dr. George K. Smith as a medical student. While in Dr. Smith's office he seems to have been an interne in the Brooklyn Eye and Ear Hospital for two years, before he graduated in medicine, and also attended one course of lectures at the Long Island Medical College.

His services at the Eye and Ear Hospital were greatly prized, and a special department was organized for him, for the examination and treatment of nervous diseases, with which many of the eye and ear cases were complicated. Here Dr. Shaw displayed that wonderful aptitude for investigating and diagnosing this class of cases which subsequently made him distinguished.

During the winters of 1873-74 he attended the lectures of the College of Physicians and Surgeons, where he received his degree of M.D. at the close of the latter year. Not content with simply obtaining his degree he took two post-graduate courses on the histology and pathology of the nervous system, in the private laboratories of Dr. Satterthwaite and Professor E. C. Seguin, and so well pleased was Professor Seguin with his progress and abilities that he appointed him his clinical assistant at the College of Physicians and Surgeons.

He then returned to Brooklyn and began private practice, and was at once made Neurologist of St. Peter's Hospital. Before the close of the year, however, he was offered the position of Medical Superintendent of the Kings County Lunatic Asylum, which he accepted. Here he found a congenial field for research, which he explored with great enthusiasm and success. He read the writings of Pinel of France, of Drs. Charlesworth and Hill of England, and Drs. Ray and Rush of this country, and fully sympathized with them in their desire to establish a more humane and rational mode of treatment for the insane.

The brutal treatment to which these poor unfortunates had heretofore been subjected—the "strait-jacket," chains, handcuffs, bed of straw and filth, together with insufficient food, filled his soul with loathing, and he ceased not to implore the Commissioners of Charities to second his efforts to better the condition of the pauper insane. Fortunately for the cause of humanity, the commissioners gladly did what they could in this direction.

As a result of these efforts cottages were built for those not violently insane, occupation and amusement were provided, "strait-jackets," chains, and handcuffs were discarded, better sanitary rules and regulations were adopted, and the pathology and treatment of nervous diseases were studied in a more scientific manner, and he soon came to the conclusion that insanity was a diseased condition of the nerve centers, susceptible of cure as much as diseases of the lungs or liver.

The results of his research and experience were published in the medical periodicals of the day, and made a profound impression upon the medical profession. Dr. Shaw remained at the asylum from 1874 to 1883—nine long and laborious years. No man ever worked more industriously or perseveringly than did he to master the pathology of insanity and to discover a rational treatment for the same.

During his residence at the asylum Dr. Shaw married Miss Kate Vanderhoef, who survives him, together with three sons and one daughter.

At the close of his term of office at the asylum he returned to Brooklyn and resumed his private practice, and at the same time lectured during the reading term of the Long Island College Hospital on anatomy and physiology of the nervous system.

The next year he was made Clinical Professor of Diseases of the Mind and Nervous System at this institution, and so continued till the time of his death.

Dr. Shaw was probably connected, officially, with more public institutions than any other physician who ever lived in Brooklyn. He was Consulting Physician to the State Hospital for the Insane, Poughkeepsie, N. Y.; he was Neurologist to the Long Island Hospital, St. Catharine's Hospital, Long Island Throat Hospital, the Brooklyn Hospital, St. Peter's Hospital, Brooklyn Eye and Ear Hospital, and to the Bedford and Central Dispensaries, and Kings County Hospital.

He was an active member of the New York Neurological Society, and was twice its President; of the Brooklyn Pathological Society, of the Medical Society of the County of Kings, of which he was also President, 1893; also of the American Neurological Society, Practitioners' Club, Brooklyn Society of Neurologists, the Brooklyn Medical Club, the Brooklyn Anatomical and Surgical Society, New York State Medical Society.

In all of these societies he took a conspicuous part, and before most of them read important papers, as well as contributing to many medical journals. In fact, he was a voluminous writer. He wrote a book—a 12mo.—on "Essentials of Nervous Diseases and Insanity." He was a large contributor to the *International Clinics,* and was for a time associate editor of the *American Medical Digest.* Wrote papers on Muscular Atrophies in Locomotor Ataxia; Hysterical Trembling and Stammering; Hemiplegia in Children; Hysterical Trismus; A Case of Ataxia in a Child; Two Cases of Intra-Cranial Tumor; The Condition of the Pupil in Disease; Progressive Muscular Atrophy and Its Pathology; General Paralysis of the Insane; Anomalous Cases of Locomotor Ataxia; Contributions to the Pathological Anatomy of Cerebro-Spinal Sclerosis; Some Peculiarities in the Myeline of the Peripheral Nerves, after Treatment with Osmic Acid; Hyoscyamus; Sub-acute Myelitis of the Anterior Horns; The Practicability and Value of Non-Restraint Treatment of the Insane; One Year's Experience of Non-Restraint in the Treatment of the Insane; Notes on a Case of Localized Cerebral Atrophy; Physiological Action of Hyoscyamus; A Second Year's Experience of Non-Restraint Treatment of the Insane; Migraine with Intermittent Ptosis; Perverted Sexual Instinct; Apopleptiform, Epileptiform and Hemiparetic Attacks in Locomotor Ataxia; Degeneration of the Peripheral Nerves in Locomotor Ataxia; Raynaud's Disease; Cretinoid Myxodema Treated by Desiccated Thyroid; Acute Spinal Paralysis.

The enumeration of the various public institutions with which Dr. Shaw was officially connected, and the above catalogue of papers which he contributed to medical science, demonstrate the regard in which his services were held and the industry he displayed as a medical student.

Coming to this city when only seventeen years of age, without influential friends or the backing of wealth, but simply by his indomitable industry and brain power he forced his way to the very front rank as a neurologist, and after a week's sickness, which his exhausted energies could not withstand, he died at the age of fifty-four, lamented by those who had been benefited by his wise advice, and mourned by all his colleagues.

On reading the history of Dr. Shaw, which is the history of so many medical men, the question naturally arises, has any physician the right—is it just to his family—to give so much of his time and energy to public institutions for which he receives no remuneration, that when sickness comes, as come it will, his exhausted energies are unequal to the combat, and he almost certainly falls?

We understand that more than once in the past few years Dr. Shaw has become so nervously exhausted from his excessive work that he has felt obliged to retire to the quiet and seclusion of his Connecticut home to recuperate.

Near this Connecticut farm resides the widow of another

GUSTAVE SCHMETZER, M.D.

Brooklyn physician, Dr. Rockwell, whose death was largely due to professional strain.

So history repeats itself, and we never learn the lesson of our limitations until too late.

HOMER L. BARTLETT, M.D.,
Chairman Historical Committee.

GUSTAVE SCHMETZER, PH.G., M.D.

Some years ago the writer became acquainted with our late associate, and the impressions formed at that time were of that nature as to make one feel that the doctor represented all the qualifications which go to make up the true physician, being interested in the profession he had adopted as his life work and fully acquainted with the advances made in our art; he possessed at the same time a generous disposition, every ready to give of his time and ability to those whom nature had ill prepared for the stern realities of life, at the same time upholding that dignity in the profession which is so essential to our standing in the community at large.

Dr. Schmetzer was born in Würtemberg, Germany, on November 26, 1842, his father, Daniel John Schmetzer and his mother, Louise A. von Jenish, both of Würtemberg. He married Marie Louise Strobel of Jersey City on November 5, 1871, who died July 15, 1884.

The children as the result of this union were Emily, Emma, Rose, and Gustave H. Schmetzer.

The doctor received his early education in the public and high schools of Germany. Coming to this country he matriculated with the New York College of Pharmacy, receiving the degree of Ph.G. in 1866. For a few years he was engaged in the drug business in Jersey City. Entering the Medical Department of the University of the City of New York in 1874, graduating M.D. in the class of 1877. In the same year he began the practice of medicine in this city, selecting the Eastern District and remaining in the active practice of his profession until his death, December 17, 1899. For a number of years he was Physician to St. Catharine's Hospital, and during the last year received the appointment as Physician to the New German Hospital. His connection with the Medical Society County of Kings dates from 1877 to the time of his death.

WILLIAM SCHROEDER, M.D.,
Sec. of Historical Committee.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 475 Franklin avenue.

Dr. Henry H. Morton of Schermerhorn street was appointed by the Board of Regents on February 5th Genito-Urinary Surgeon to Long Island College Hospital. He has been serving as Assistant Surgeon in that department for the past four years.

Officers of the three recently formed sections of the Medical Society of the County of Kings have been elected as follows: Ophthalmological—Chairman, Arthur Mathewson; Secretary, P. C. Jameson; Executive Committee, J. S. Prout, Nelson L. North, Jr., and Wm. Simmons. Ear, Nose, and Throat—Chairman, J. E. Sheppard; Secretary, W. C. Braislin. Pediatric—Chairman, H. N. Read; Secretary, Wm. A. Northridge.

Dr. Warren S. Shattuck of Clinton street was married February 27th, to Miss Louise Eddy Salisbury of Providence.

Dr. Thomas F. McCleary returned the first of March after a month's wedding trip in the South.

Dr. Jerome B. Thomas, Jr., of Clinton street, announces that he has accepted a position as Acting Assistant Surgeon in the United States Army, and will give up his practice for a year, leaving Dr. Clarence Hyde of Schermerhorn street in charge. He started for the Philippines via San Francisco last month. Dr. George H. Gosman of the House Staff of Kings County Hospital has also received a similar appointment. He, too, proceeded to his post in those distant islands in March.

The exodus of Brooklyn physicians to the Borough of Manhattan continues. Dr. I. M. Wilzin moved a few months ago from Verona place to 2352 Seventh avenue; Dr. Victor Neesen of Sixth avenue to 335 West Fifty-first street; and Dr. A. W. Dunbar of Seventh avenue to 159 Lexington avenue.

It is with regret that the deaths of several physicians must be chronicled this month. Ernest G. Metcalfe of Hooper street and George Schmitt of Suydam street in January; Joseph M. Creamer of Tompkins avenue, February 23d; William E. Walmsley of Stuyvesant avenue, February 25th; and Aaron E. Peck of State street, March 8th.

At the annual meeting of the Associated Physicians of Long Island officers were elected for 1900 as follows: President, James M. Winfield; First Vice-President, W. B. Gibson of Huntington; Second Vice-President, Calvin F. Barber; Third Vice-President, J. S. Cooley of Glen Cove; Secretary, Charles D. Napier; Treasurer, J. E. Hutcheson of Rockville Center; Historian, Joseph H. Hunt; Delegate to State Medical Society, Chas. M. Niesley of Manhasset.

Dr. B. Onuf has taken the practice of the late Dr. John C. Shaw. Dr. Onuf resides in Berkeley place, but will be in Dr. Shaw's office in the forenoon.

In connection with the Seaside Home at Coney Island this summer there will be three medical positions to be filled. (1) An interne, who will receive his board but no salary; term of service from about June 20th to September 7th. (2) An examining physician, to examine the children who are to be sent to the Home. His duties will require his attendance in the Western District from 9:30 A. M. to about 11:30 A. M., and in the Eastern District from 3 P. M. to 4 P. M. daily, except Saturday and Sunday, from about June 20th to September 7th. Salary, $250. (3) To accompany children who are sent out for recreation under the auspices of the Fresh Air Fund; service during July and August; salary, $50 a month. Applicants desiring further information can communicate with Dr. J. H. Raymond, Polhemus Memorial Clinic.

Under the title *Bibliographia Medica,* the Institut de Bibliographie, 93 Boulevard Saint-Germain, Paris, France, will publish monthly an international bibliography of the medical sciences, to take the place of the American *Index Medicus,* which has been discontinued. The enterprise began January 1, 1900. The price of subscription is 60 francs.

At the request of the French Society of Electrotherapy and Radiology, the International Congress of Medical Electrology and Radiology—the initiative of which it has taken—is connected to the International Congress of 1900. This congress will take place in Paris, from the 27th of July to the 1st of August.

All inquiries for further information must be forwarded to Prof. E. Doumer, General Secretary, 57 Rue Nicolas-Lablanc, Lille.

The scientific program at the annual meeting of the Associated Physicians of Long Island was as follows: "A Brief Discussion of Certain Conditions Frequently Associated with Movable Kidney," by Charles M. Niesley of Manhasset; "The Clinical Value of Modern Treatment in Puerperal Sepsis," by John O. Polak; "Disinfection," by Ezra H. Wilson.

The Associated Physicians of Long Island have been invited by the Northport Yacht Club to hold their June meeting in the club house at Northport.

Competitive examinations for positions on the House Staff of Kings County Hospital will take place May 1, 1900, at 10 A. M., at the General Hospital. The examination will consist of oral, written and practical work in the wards. The examiners will be J. T. Duryea, Chairman; J. Bion Bogart, and H. H. Morton.

NEW BOOKS AND BOOK NOTICES.

All books received by the* JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.

A TEXT-BOOK OF PATHOLOGY. By Alfred Stengel, M.D. W. B. Saunders, Philadelphia. Second edition.

The second edition of Stengel's Pathology following so closely after the first, differs from it only in some minor details. The same end has been kept in view, namely, to present the subject in as practical a form as possible and always from the point of view of the clinical pathologist. Part 1 deals with general pathology and contains eight chapters, including one on Bacteria and the diseases due to Bacteria, which is especially well written. Discussion and controversial matter have been avoided as much as possible, even in the chapter on General Bacteriology.

Part 2 deals with special Pathology and consists of fourteen chapters, covering almost all of special pathology with the exception of the pathology of the skin and organs of special sense.

The illustrations, very few of which are original, are abundant, well chosen and well executed. The colored plates are exceptionally good. The work, taken as a whole, is a most valuable addition to the practitioner's library, a useful guide to the worker in pathology, and has taken a deservedly high place as a text-book in the medical schools of the country.

E. H. WILSON.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, etc., and F. F. Burghard, M.D. and M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London, Surgeon to King's College Hospital, etc. In six imperial octavo volumes, with illustrations. Volume II., 382 pages with 141 illustrations. Cloth, $4.00 net. Lea Brothers & Co., Philadelphia, and New York, 1899.

This is an eminently practical work. Without verbosity it carries the reader through every detail of treatment,—if operative, from the preparation of the field to the final dismissal of the case. No knowledge of a surgical character is presumed on the part of the reader, a fault so apparent in many works on operative surgery. The book is just what it claims to be, a "Manual of Surgical Treatment." It bears evidence of English authorship, and the descriptions of dressings will be somewhat embarrassing to the American reader. It is easy to detect, also, a slowness to adopt some distinctively American methods of treatment. These faults, however, are more than overbalanced by many virtues. The illustrations are ample though not elaborate. The purchaser will not spend his money for extra fine paper and handsome binding. The type is compact though readable, and in many respects the book is in marked contrast, from the mechanical standpoint, to those put upon the market by medical publishers generally. It must stand upon its scientific merits, but in so doing rests upon a firm foundation.

This volume deals with deformities congenital and acquired and with surgical affections of the skin and subcutaneous tissues.

WILLIAM W. BROWNING.

A TREATISE ON HUMAN ANATOMY IN ITS APPLICATION TO THE PRACTISE OF MEDICINE AND SURGERY. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia, In three royal octavo volumes of more than six hundred pages each, containing about four hundred and fifty full page plates, nearly all of dissections made for the purpose. Cloth, $21; Sheep $24; half Morocco, $24; half Russia, $27. Volume I. P. Blakiston's Son & Co., Philadelphia.

As one might expect from the author's experience as an anatomical teacher and practical surgeon, the work contains much valuable matter. Where Dr. Deaver confines himself to the practical application of anatomical facts he treats his subject with a master's hand. The volume, however, contains much anatomical detail entirely irrelevant which but serves to increase its bulk and expense and place it beyond the reach of those who might be most profited by what is valuable in it. The illustrations, too, add more to the expense and artistic beauty of the book than to its scientific value. In so far as they are actual reproductions of photographs or purely diagrammatic their teaching value is good, but most are semidiagrammatic and very many of these are actually misleading. No doubt the author has been embarrassed by the fact that the medical profession, so far as books are concerned, are allowing their esthetic tastes to dominate their scientific judgment.

Volume I. treats of the upper extremity,—back of neck,—shoulder and trunk,—cranium,—scalp,—superficial anatomy of the face,—face.

William W. Browning.

A Text-Book of Physiology. By Winfield S. Hall, Ph.D. (Leipzig), M.D. (Leipzig), Professor of Physiology, Northwestern University Medical School, Chicago; Member of the American Physiological Society; Fellow of the American Academy of Medicine. Illustrated with 343 engravings and six colored plates. Lea Brothers & Co., Philadelphia and New York, 1899 8vo. pp. 671.

In this book are summarized not only the main facts, hypotheses and theories of physiology, but also many of the generalizations of physics, chemistry and morphology upon which the superstructure, physiology, has been built. It is the work of a sincere, broad-minded and industrious student of the science, and bears throughout the stamp of thorough scholarship. The positiveness and accuracy with which the facts of the science are stated is highly commendable, especially inasmuch as there has long been a feeling—not unwarranted—among students of science and practitioners of medicine that physiology is a very inexact science. Herbert Spencer has indeed gone so far as to assert that physiology "can never become exact." ('Tis only fair to mention here that physiology has advanced greatly since Spencer wrote this.) If any one who has held this view will look carefully through this book—and especially if he will take the time to study one or two of its chapters—he will very likely be ready to admit with the reviewer that whatever may have been the shortcomings of physiology a half century ago, it now deserves, indeed occupies, a place among the physical sciences.

The author's style is compact, yet comprehensive; he seems to state exactly what he means. In places he seems dogmatic; but this is apparent rather than real, due no doubt to the enforced brevity of the text.

A large portion of the illustrations are diagrammatic and many of the generalizations are represented in tabular form. This is to be commended inasmuch as it encourages the habit, on the part of students, of forming distinct and definite mental pictures.

The introductory chapter consists of a summary of the general concepts of physics, chemistry and biology, and a very concise outline of the great epochs in the development of physiology.

The book is divided into two parts. In Part I., General Physiology, the author deals with the properties and characteristics of living substance (Chap. I.) and with the general physiology of muscle and nerve tissue (Chap. II.). In Part II., Special Physiology is dealt with under three subdivisions, *viz.*:

(*a*) Nutrition; the physiology of the internal relations.

(*b*) Moto-Sensory Activities; the physiology of the external relations, and

(*c*) Reproduction: which, following the author's phraseology, the reviewer ventures to style the physiology of the relations of the individual to the species.

The arrangement of the matter of this book is systematic throughout; the author's plan being to present first the facts and conceptions of morphology, physics and chemistry which together form the basis of physiology, and then to follow with those of physiology proper. This plan is carried out in each chapter. Many of the chapters open by a brief general introduction, followed by a summary of the comparative physiology of the process or processes of which the chapter treats, and in the chapter on circulation there is also a "Historical Introduction," in which is given a résumé of the views held by philosophers and physiologists, concerning the circulation, from the time of Aristotle to that of Malpighi. One is surprised at the amount of information which the author has condensed into the book. It is useful both as a text-book and a book of reference.

JOHN C. CARDWELL.

ESSENTIALS OF DISEASE OF THE SKIN. By Henry W. Stelwagon, M.D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College; Physician to the Department of Skin, Howard Hospital; Dermatologist to the Philadelphia Hospital, etc. Fourth edition, thoroughly revised. Illustrated. Philadelphia: W. B. Saunders. 1899. Price, 1.00 net.

This little work is in brief just what its title purports. As a dermatological treatise it would be very unsatisfactory, but it does not make that pretense. It has its uses in the summing up concisely essential facts and features of diseases of the skin both for teacher and student; for the latter particularly, in its direct and easy method of grinding up for examinations. The woodcuts for the most part, except those pertaining to the anatomy of the skin, might as well have been omitted, we think, as they are not specially good.

S. SHERWELL.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Larynogology and Rhinology, Jefferson Medical College; Consulting Laryngologist, Rhinologist and Otologist, St. Agnes' Hospital, etc. With 175 illustrations, 23 ot them in color. Bound in cloth $4.00; in sheep and half Morocco, $5.00. Published by W. B. Saunders, 925 Walnut street, Philadelphia, Pa.

Dr. Kyle has produced a good working text-book, which contains much valuable material for those commencing the study of this special department. He has made an evident effort to be thorough in presenting the relations between general diseases and affections of the nose and throat; thus under the heading of acute rhinitis in constitutional diseases there are detailed the acute nasal symptoms occurring in 14 different ailments, including such varied diseases as measles, influenza, diabetes mellitus and scrofula. Membranous rhinitis is subdivided into pseudo-membranous, fibrinoplastic and diphtheritic. Another illustration of the author's attempt at exhaustive classification is found in his treatise upon ulcers of the anterior nasal cavities, in which eight varieties of non-infective and eleven of infective ulceration are described.

This comprehensive method is followed with modifications, but without curtail in relating the affections of the pharynx and larynx.

Such thoroughness is certainly desirable in the discussion of medical subjects, if warranted by the proposed scope of the volume. In books of reference, where space is not a consideration, we expect descriptions of every known diseased condition, however infrequent may be its occurrence, but as indicated by its title this work is a text-book and its limited size has rendered it impossible to sufficiently describe and amplify many affections whose names are given in the list of contents. We therefore think that this book does not offer the detail which is required by the specialist, and further, that the general student would be more confused than helped by the listing of so many and rare diseases.

This statement conveys our only criticism upon the value of this book. The descriptions of pathological conditions are admirable; they are exact and lucid, and distinctly increase the scientific worth of the volume. We would also note most favorably the excellence of the illustrations and photographic reproductions. They are beautiful in workmanship and materially assist the text of the book. W. F. DUDLEY.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Robert Bartholow, M.A., M.D., LL.D. Tenth edition, revised and enlarged. D. Appleton & Co., New York.

The reputation of this work is well established. This edition has added accounts of the newer remedies and a special article on prescription writing. Many other changes have been made, which will increase the value of the volume greatly.

LOVE AND ITS AFFINITIES. By George F. Butler, M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois. Author of "Materia, Therapeutics and Pharmacology," etc. Beautiful octavo volume, cloth, gilt top, 134 pages with photogravure frontispiece "Cupids Sharpening Their Arrows," by Raphael Mengs. G. P. Engelhard & Co., Publishers, Chicago.

This book has a frontispiece, "Cupids Sharpening Their Arrows," with a quotation from "Much Ado About Nothing." They each prepare us for what follows. We read in the introduction that "the suggestions arising from a thoughtful contemplation of the triune motive, Lust, Love and Religion, are endless . . . . It is consequently impossible to present in a few observations the manifold phases of so vast an inquiry." We think that the author in his 133-page production of poetry and verbose prose has said quite enough. It may be permissible to treat such a subject from a purely philosophical standpoint for the edification of professional circles; but what shall our criticism be when we find it in an embellished volume, distributed broadcast, abounding in such language as the following: "In recent years *the* most brilliant and *the* most god-fearing of men and women have succumbed to illicit infatuation prompted by inordinate sexual desire—phenomenal lapses, in England as well as in America, having shaken the fabric of society to its foundation." We do not remember a sentence equal to this in any document, legal or otherwise. We are not surprised to find God spelled with a small "g" after such total wreck of the best class of human beings.

Physicians' Manual of the Products of the Laboratories of Parke, Davis & Co. Including a complete price list. Press of Parke, Davis & Co., 1899.

In this publication of 384 pages will be found a complete list of the products of their well-known laboratories, besides which are described the properties of drugs, with a dose list, tables of metric equivalents, a table for making solutions, a list of botanical synonyms, and other information. The manual is furnished on application.

Electro-Hemostasis in Operative Surgery. By Alex. J. C. Skene, M.D., LL.D. D. Appleton & Co., New York, 1899.

The armamentarium of the modern surgeon has expanded to such an extent that it is time to stop and consider how much that is new is valuable. Of one thing, however, there can be no doubt, that blood stasis in operative surgery is and ever will be a topic of paramount interest and importance. Evolution has progressed to such a degree that the ligature seems a long remove from the actual cautery. Perhaps not of equal importance, but of great importance, is the use of the observable in place of the unobservable ligature.

But one step further leads us to the ideal—the avoidance of ligatures, for it must be recognized that the *bête noire* of pelvic and abdominal surgery is hemorrhage. It is just here that the theory and practice of electro-therapeutics, as developed and so largely perfected by this eminent author and surgeon, demand and will receive the considerate and discriminating judgment of the profession as to its use and limitations.

If its power to produce hemostasis and immunity from sepsis at the point of application is thoroughly established, it must remain until superseded by something better one of the most valuable of modern improvements. The results of any surgical procedure which leaves behind it either ligatures or sutures cannot be a matter of indifference to the operator and must be of far-reaching interest to the patient as related to the final outcome. The proposition of the author is to supersede the necessity of the ligature of blood-vessels, and around this problem centers the interest of the book. The studies and observation of the writer on the feature of the subject is most interesting, especially the manner in which nature takes care of the cooked tissues and blood-vessels.

If the cooking process is carried to the point of charring, then a foreign body is left behind and the vital purpose of the undertaking is in danger of being defeated, by the production of a foreign body. This then is the ideal, to securely close the blood-vessels, occlude the absorbents and avoid disorganizing the structure to a degree which prevents structure reorganization. While it will doubtless fulfil a most valuable purpose in hospital and institutional practice, it remains to be seen whether its complicated mechanism and the need of a skilled electrician will preclude its introduction into general practice.

With his usual ability the author closes his book with chapters in which are discussed hospital construction and disinfection. It may be confidently affirmed that this latest effort of the writer will add to the luster of his career, both as a scientist and surgeon.

WALTER B. CHASE.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE, including a brief Treatise of the Pathology and Treatment. By Professor Dr. O. Haab, of Zürich. Authorized translation from the German. Edited by G. E. De Schweinitz, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia; Consulting Ophthalmologist to the Philadelphia Polyclinic, etc. With 76 colored plates and 6 engravings. Philadelphia: W. B. Saunders, 925 Walnut Street, 1899.

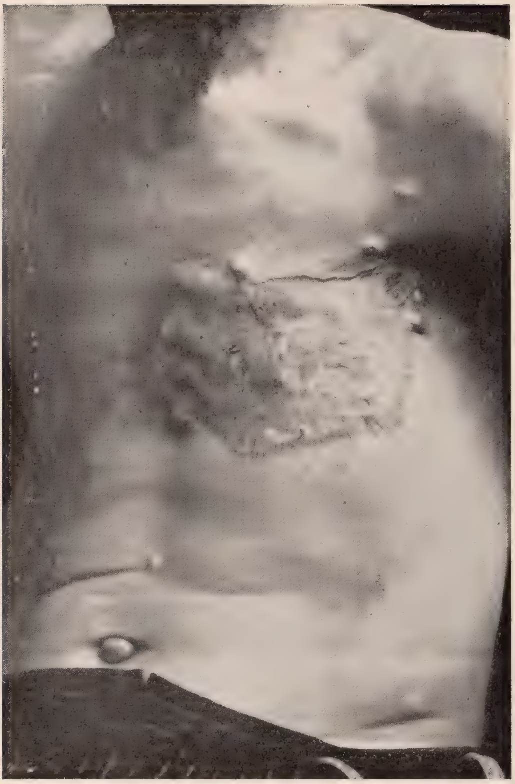
Most of the attempts to represent pathological conditions in colors have not been entirely satisfactory. However, in the work under consideration, the colored plates compare very favorably with the larger and much more expensive atlases.

JAMES W. INGALLS.

A COMPEND OF THE DISEASES OF THE EYE AND REFRACTION, including Treatment and Surgery. By George M. Gould, A.M., M.D. Formerly Ophthalmologist to the Philadelphia Hospital, etc., and Walter L. Pyle, A.M., M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia, etc. Second edition, revised and enlarged. One hundred and nine illustrations, several of which are in colors. Philadelphia: P. Blakiston's Sons & Co., 1012 Walnut Street, 1899. Price, 80 cnts.

The authors are to be congratulated upon having so successfully completed a second edition of their valuable work. The chapter on Functional Anomalies is well worthy of careful perusal. The section on Local Ocular Therapeutics is of special value. All of the newer remedies are fully described.

JAMES W. INGALLS.



CARCINOMA OF THE BREAST IN THE MALE.

Presented by J. Edward Herman, M.D.

THE BROOKLYN PATHOLOGICAL SOCIETY.

409th Stated Meeting, Thursday, December 14th, 1899.

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION III.—WALTER C. WOOD, A.B., M.D., CHAIRMAN.

Carcinoma of the Breast in the Male (Illustrated) 310
J. Edward Herman, M.D.

Landry's Paralysis. Report of a Case 313
John M. Clayland, M.D.

Intestinal Obstruction Due to Intussusception (Illustrated) 318
John D. Sullivan, M.D.

Intestinal Obstruction Due to Brides and Volvulus (Illustrated) 318
Algernon T. Bristow, A.B., M.D.

Thyroid Gland; Hyperplasia; Degeneration; Specimens .. 323
William A. Payne, M.D.

Stomach; Round Ulcer; Specimen 323
Russell S. Fowler, M.D.

Intestines; Typhoidal Ulcers; Specimen 324
Louis Curtis Ager, M.D.

Appendix; Perforative Appendicitis; Specimen 324
Russell S. Fowler, M.D.

Liver; Carcinoma; Specimen 325
Lungs; Carcinoma; Specimen 325
Vertebra; Fracture of Second Lumbar; Specimen 325
Humerus; Fracture of Head; Specimen 325
William A. Payne, M.D.

Axillary Glands; Tubercular Adenitis; Specimen 325
Frederick J. Shoop, M.D.

Carcinoma of the Breast in the Male; Patient; Specimen; History; Illustration.

J. Edward Herman, M.D.

The history of this case is that at about the age of 45, eight or ten years ago, this man noticed a small, movable growth, about the size of a coffee bean, near the nipple of his left breast. He consulted a number of physicians and they assured him it did not signify much and advised him to let it alone. About two and a half years ago he accidentally hurt himself against the edge of a door. Immediately some irritation occurred, which he describes as resulting in a bluish discoloration and followed at once by some increase in the growth. Then came a long period of self-medication. When I first saw him, about two years ago, it was evident that the case had been too long neglected and he was immediately operated on in St. Francis Hospital, in New York. The breast was removed by a long incision and the axilla cleared out.

I only saw the patient once before the operation, and I did not see him again until a year later, when he returned to me. The incision of the original operation was entirely healed, but there was quite a crop of new growths surrounding the nipple in all directions. This large scar you see here is not the result of the original operation. He returned to the same hospital, where Dr. Camerer did a second operation. He removed a large area of skin and filled up the cavity with skin grafts taken from the thigh, but there is nothing now left but bone and skin. That was about a year ago.

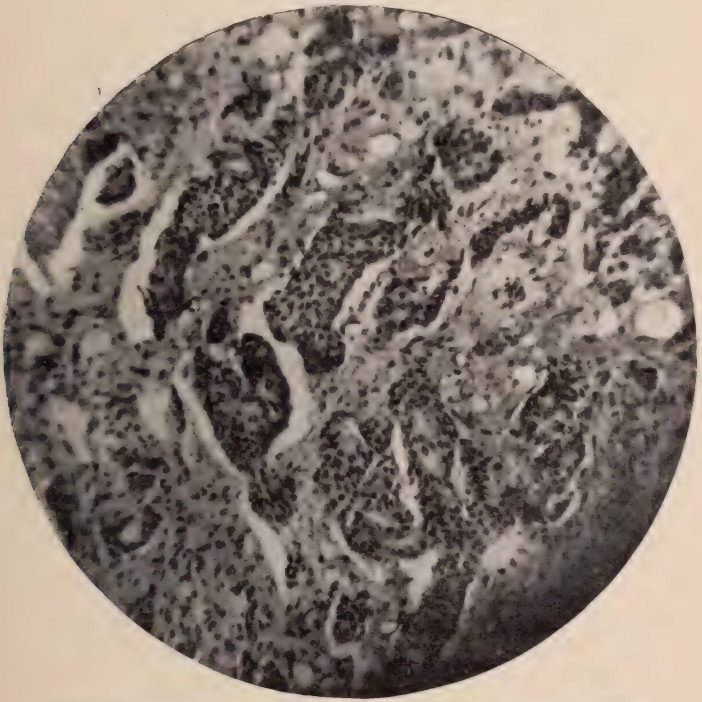
The patient tells me that about four weeks after the first operation he noticed a recurrence and evidently a number of months following this second operation. We now find growths in different portions of the body. They are movable, quite hard, and somewhat discolored.

He comes back to me and asks me what we are going to do now. I pass that question on to the members of the Society.

1098 Bushwick Avenue.

DISCUSSION.

H. Beeckman Delatour: This case I take to be probably a sarcoma starting in the skin of the breast and probably not involving the gland at all. Those that we see at present in the rest of the skin certainly look like sarcomata of the skin. The operation as done certainly was not the Halstead operation, for we have in the patient the entire pectoralis major muscle present and the incision is carried well down across the axilla; it is simply the removal of the breast itself, with the removal of the axillary glands. It would be interesting to know whether in this particular patient there were any glands in the axilla; I should doubt very much whether any lesion existed there; I should think the lesion was probably entirely a skin lesion.



CARCINOMA OF THE BREAST IN THE MALE.

PHOTOMICROGRAPH OF ONE OF THE SKIN NODULES.

(x 800.)

James McF. Winfield: Dr. Herman asked, in closing his remarks, what would be the treatment for his case. I should agree with Dr. Delatour that it is undoubtedly a case of sarcoma of the skin, or possibly a mycosis fungoides, which is closely allied to that disease. If it was my case I would try arsenic, beginning with a small dose and gradually increasing to the point of tolerance. Dr. Sherwood had a case at the City Hospital, which Dr. Paine may remember. The case was sent in for operation; it was a multiple sarcoma of the skin, proven by the microscope, and it was put on Fowler's solution and gradually increased, and after two years from the time of admission to the hospital I saw the case, with Dr. Sherwood, and there were no signs of the tumors anywhere on the skin. I believe the man had a recurrence; he stopped the treatment and there was a recurrence; the subsequent history I have not learned.

Arthur R. Paine: I remember the case to which Dr. Winfield refers and I remember how pleased Dr. Sherwood was with the result, and where there seems to be such general infiltration it seems to me some constitutional treatment would be in order rather than strictly local treatment.

Henry P. de Forest: It seems to me the important thing in this interesting case is to first make your diagnosis, and that can be only done by microscopic examination. Some of these nodules are very small, and it seems to me that with cocaine, or without it, one could be removed and a correct diagnosis made as to exactly what condition we have to deal with. It is also to be remembered that among these diseases of the nipple in women, the one formerly referred to as Paget's disease, has in recent times been looked upon as a distinct neoplasm of the skin, carcinomatous in character. May it not be possible that this was really a case of Paget's disease of the nipple existing in a man?

The microscope after all will be the only way in which an accurate diagnosis can be made.

J. Edward Herman: There was glandular enlargement the first time I saw the case; the process had been going on a number of months before that, but the condition I found led me to think that it was in the gland itself; there was an eating away of the greater part of the nipple, that seemed to be the commencement of the process. There was anyhow an outlet of some discharge there and induration surrounded that, but we find induration of glands in sarcoma also; that would not determine anything in my mind. I confess that when I first saw it after the original operation, from the character of the surrounding growths, I did think it was sarcoma. I thought it might be melanotic sarcoma; the second crop of growths does not remind me of it so much; they are harder and more deep-seated than the others, and it seems to be the impression of the surgeons that removed the growth that it is carcinoma; I do not know; I suppose the microscope would have to determine that point and I am thankful for the suggestion about using arsenic. There is only one question I woud like to ask: If the case be sarcoma, what is the probability of success from the use of the culture—the toxine of erysipelas or prodigiosus. Dr. Coley speaks of this growth, the spindle-cells, and claims 50 per cent. of cures. I would like to hear if anybody present has had any experience with that remedy.

NOTE: Immediately after the meeting a nodule was excised under cocaine, and after being hardened and sectioned proved to be a distinct carcinoma. (See Photo-micrograph.)

Landry's Paralysis. Report of a Case.

John M. Clayland, M.D.

Mr. C———, age 56, previous health excellent; never been sick in his life; a farmer, born and raised in the same house in which he died. The winter before he had had a little itching due to eczema on the inner side of the thigh; that was the only thing he knew of, except there was a little increase of urine during the winter previous. On Thursday, November 11, 1898, he sat in damp shed and oiled some harness. It was cold and raining and he said that he felt cold and chilled through, but he was used to that kind of thing and paid no attention to it. Friday morning about 2 o'clock he had shooting pains along the distribution of the sciatic nerve, but thought nothing of it, and worked around his celery-bed and sat on the damp ground a good deal all day, and this day he had pains in his thigh and over the sciatic nerve with a weakness of the limbs. Towards evening he became quite lame, though he was still able to walk. I saw him the next morning, Saturday.

At this time there was great weakness; he could not stand up and the power in his hands was lessened, still he could use his hands to do anything he wanted to and he had considerable strength. There was no fever, pulse regular, but he had a hoarse cough, which I afterwards thought was due to a slight paralysis of the vocal cords; in other words, the paralysis of the vocal cords commenced quite early in the disease, earlier than it usually does.

On Sunday the power in his hand was no worse, but his legs were almost motionless; the urine was scanty—about a pint—did not contain albumin, specific gravity 1028; there was pain and aching in the back, tingling of the lips, the patella reflexes were gone.

On Monday the aching in the back was worse and also the aching in the right leg; there was also some inability to pass water and he had to strain a good deal in order to empty the bladder. Whenever he swallowed, some of the food was apt to get down the windpipe and he had an attack of coughing. His speech at this time was peculiar. He had to make a great effort to speak, probably because he could not approximate the vocal ocrds. He had to use all his power in order to make a sound and when he did speak it was with a hoarse, rough voice. Often during the day he sighed heavily. His brain was quite clear and there was no sign of any mental trouble. The pupils contracted a little, and they were still mobile; sensation was normal; urine half a pint in twenty-four hours, specific gravity 1020 and no albumin.

On Tuesday there was absolute disability of the legs, the coughing and strangling after swallowing were worse and all the other symptoms were worse.

On Wednesday there was retention of urine, more trouble to speak and the tongue and lips felt queer. This was his statement, for at no time did he show mental aberation; they tingled and were numb, and he did not seem to have the power to use them. He had at this time some difficulty in locating the points on the limbs when he was touched with a pin or with the finger; he did not seem always to know—you are aware that in Landry's paralysis as a rule there is no trouble in the sensation—he felt a pin when you stuck him, but he had a little difficulty in locating that point. Sometimes if you stuck him in two places at once, three or four inches apart, he would think there was only one point; but this was not very marked; the paralysis was the marked symptom; the sensation was not much interfered with.

On Wednesday he ceased to talk also. He would not answer any questions, although he showed that he was intelligent; it was such a great effort to make a sound that he practically quit talking altogether, though he whispered a little; he did not seem to have the power of moving his lips and tongue; the urine again was half a pint. At 10 o'clock in the evening his breathing was very shallow and gasping, the pulse was still good until the very last, and he died from paralysis of the respiratory muscles on Wednesday at 11 P.M., six days after the exposure to cold, which, I believe, was the cause of the paralysis. There was no autopsy.

252 Rodney Street.

DISCUSSION.

Dr. Haynes: Mr. President, the disease known as Landry's paralysis may be considered according to our present knowledge as an infectious disease of the nervous system. Although no specific germ has as yet been isolated, others, such as the streptococcus longus and the staphylococcus pyogenus aureus have been found and it is accompanied, as all infectious diseases are, by an enlarged and softened spleen and enlarged intestinal (mesenteric) lymphatic glands. It affects mainly the anterior horns of gray matter of the cord and at least the ganglion cells, though the white matter and efferent motor nerves are also affected. In some cases it is attended by more or less constitutional symptoms, such as we see in different degrees of severity in anterior poliomyelitis. It may be ascending or descending; may last from a few days to fourteen weeks, and its typical condition is one of flaccid paralysis of all the extremeties, with loss of reflexes; little disturbance of sensibility; normal faradic electrical reactions, but loss of reactions to galvanism; sphincters uninvolved, usual rapid course and universal fatality.

This summary is the result of a study of forty-seven cases and the most recent literature on the subject. Such being its etiology, pathology, symptomatology and course, so far as at present determined, we turn to the more practical part of the subject, that of diagnosis and treatment.

The diagnosis of this form of sudden paralysis is attended by much difficulty and in the study of the cases reported one gets easily confused by finding cases of multiple neuritis, acute poliomyelitis of children and adults and cases of polio-encephalitis ending fatally, reported as cases of Landry's paralysis, and even with the history and pathological findings exact diagnosis is sometimes impossible, as all these diseases are coming to be considered of similar nature and, therefore, we are finding similar changes in all. The following diseases with which it may be confounded: multiple neuritis, transverse myelitis, diffuse myelitis, meningomyelitis, acute anterior poliomyelitis, and polioencephalitis, can be differentiated, chiefly by the difference in the history, onset, course, limit of parts affected, involvement of sensibility and of the sphincters and by the result.

In multiple neuritis we have the history of the ingestion of some poison as a preceding acute infectious disease; though onset is sudden the course is slow, there is involvement of sensibility, electrical reaction is lost, atrophy is present, the part involved in the paralysis is not so extensive, fatal issue is rare, and a cure results after a tedious convalescence, and perhaps secondary contractions and disabilities in the extremities involved.

A transverse myelitis usually has the history of an injury, pressure, preceding infection as syphilis, is localized, sensibility and sphincters are involved, with atrophy and electrical changes.

From a diffuse myelitis by a more wholesale presence of constitutional and spinal symptoms similar to those above.

From a meningomyelitis by the early presence of spasm, pain, fever, and other marked constitutional symptoms and those of a meningitis preceding the development of the paralysis.

From the ordinary forms of anterior poliomyelitis, as we see it in children and adults, chiefly by the limitation of the disease to certain groups of muscles; and from polio-encephalitis by the involvement of the cortex or cranial centers in this disease, while Landry's paralysis never involves more than the efferent spinal motor-nerves, cord and medulla. It is an exudative inflammation, with cellular infiltration of the circumvascular sheaths, degeneration of the ganglion cells, loss of structural elements and with or without degeneration of the anterior roots. As a method for treatment, which thus far has been universally unsuccessful, I would suggest the trial of the antistreptococcic serum of Mamaronek. I am prompted to make this suggestion by reading the results of the experiments of Homen and his pupils of the University of Paris, who experimentally infected animals with streptococci bacteria and their toxins and the resulting changes in the nervous system were strikingly similar to those found in Landry's paralysis, and also by the favorable results of its use in other forms of this infection, notably in erysipelas and the puerperal state.

Dr. Sullivan: These cases are too instructive to let pass by without further discussion. In my earlier years I tried to classify the various nerve diseases or disturbances that we meet with. After many years I learned that we had various nerve disturbances due to similar physiological or pathological conditions and I finally settled down to the belief that they were all due to toxemias. Some may be auto-infection from the alimentary canal, others may be through an excess of uric acid in the blood, and others may be due to the imperfect action of the proper function of the liver and also to imperfect or insufficient action of the kidneys. On that ground, I began to treat them all on the eliminative plan, first by cutting off their nitrogenous food to a large extent, alcohol and coffee and all those things that produce congestion of the liver and would retard the elimination of waste products from the system. It has been my experience that that plan of treatment has done more good than any other plan of treatment that I have seen advocated in any of the books. The fact that that kind of treatment improved the condition convinced me still more that they were due to toxemias. The various forms of paralysis that are described I think are simply forms of neuritis—various forms of neuritis; some may be trophic, some may be plastic, some may be degenerative neuritis, but they are all due to the toxins in the blood and I think that the form of disease which these different toxins produce will depend on the tendency of the individual to certain forms of disease; that is in some the nervous system is weaker than others, in some the fibrous, others the muscular, and so on. Those whose nervous systems are more sensitive than their fibrous will get neuritis; instead of rheumatism; probably if their nerves were in better condition they would have rheumatism instead of neuritis; those who have good healthy kidneys will probably avoid getting nephritis, or, if the kidneys are weak or overtaxed, they will get nephritis from the same causes that produce endo-arteritis.

In Dr. Clayland's case it appears to me that his blood was charged with uric acid or some toxin of that sort; he developed acute plastic neuritis. Whether it commenced in the nerves of the lower limbs or commenced in the spine, I do not know that it is possible to determine or that it makes much difference as regards the pathology; but I think that he simply gets neuritis instead of rheumatism, which another man might get under the same conditions.

The exciting cause was the toxin in the blood causing inflammation in the nerves, doing such damage to the nerves that it interfered with their proper function and consequently produced paralysis. If the inflammation were not in vital structures, the patient would probably have recovered.

Dr. Clayland: I have nothing further to say, except that I believe Landry's paralysis to be due to some poison; I do not believe it is due to germ poison. I also omitted to state that the reaction to faradic electricity was normal.

Intestinal Obstruction Due to Intussusception.

John D. Sullivan, M.D.

George M., aged 34 years; truck driver; was admitted to St. Mary's Hospital on April 24, 1899, afflicted with lymphosarcoma of the cervical glands. The history and progress of this case will be published in a later issue. At present, only such remarks as pertain to the intussusception will be made.

About June 9th a marked change was noticed in the condition of the patient and obstipation supervened. This was followed by persistent vomiting and tympanites with a rapid and feeble pulse. On June 10th he became delirious and greatly prostrated; he died about 7 A.M. on June 11th.

Autopsy.—On opening the abdomen the small intestines were distended with gas. About the middle of the ileum an intussusception was found. That portion of the ileum above the intussusception was greatly distended and congested; while the part below it was shrunken, dark brown, and flabby, showing that this portion was devitalized before the death of the patient. The drawing is a good figure of the specimen.

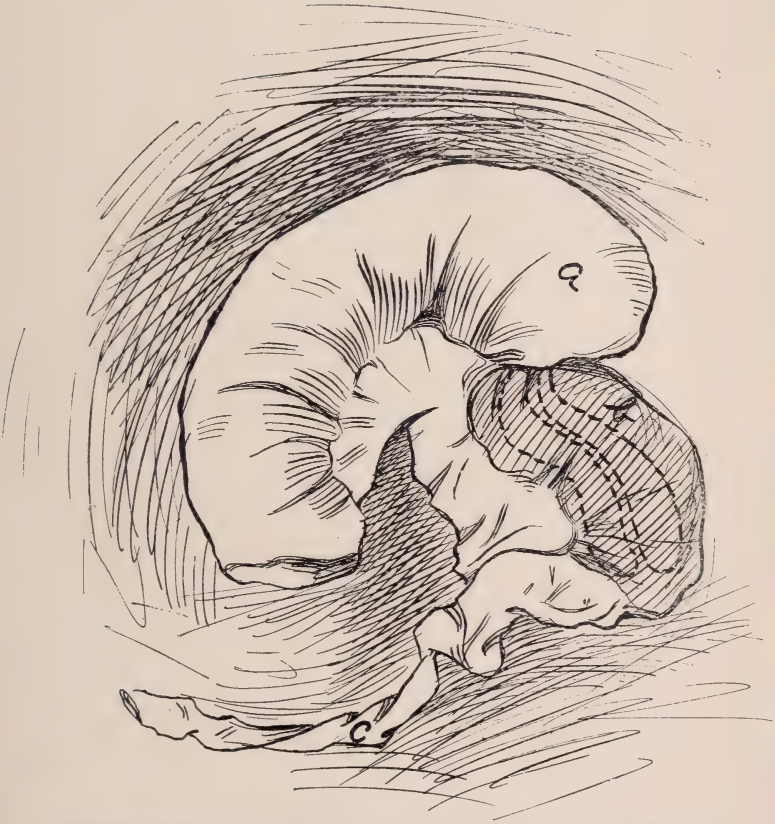
74 McDonough Street.

Intestinal Obstruction Due to Brides and Volvulus.

Algernon T. Bristow, A.B., M.D.

This is somewhat rare in my experience—volvulus of the sigmoid flexure with enormous bands of adhesions. Cases of volvulus of the sigmoid constitute about one-fortieth of all cases of obstruction to the intestine. In the specimen can be seen the urinary bladder, the sigmoid flexure, with an enormously dilated fold, and the constriction at its lower end. This does not show the twist as perfectly as it did at the time of the autopsy. A cork shows the situation of the twist and the bands of adhesions between it and the bladder can be seen. There was another band, running dorsad, which was necessarily removed.

History.—This man was admitted to the Kings County Hospital medical service about the middle of November. He had suffered from chronic constipation for the preceeding six weeks. He was retained in the medical service for about two weeks and during that time various efforts were made to move his bowels, with more or less success. High enemata were administered and some fecal evacuations followed. The history also stated that



INTESTINAL OBSTRUCTION DUE TO PROGRESSIVE INTUSSUSCEPTION.

Presented by JOHN D. SULLIVAN, M.D.

a. Over-distended ileum, cephalad of obstruction.
b. Invaginated portion of gut; folds of intestine shown by dotted lines,
c. Collapsed ileum, caudad of obstruction.

there was some vomiting but that it was not excessive and not stercoraceous until towards the time when the medical men turned him over to me.

I saw him after he had been two weeks in the hospital. He had lost greatly in weight and my opinion at the time I saw him was that he was probably suffering from an annular carcinoma which had closed gradually and had obstructed the bowel. The distention was only moderate and his condition was not good because for the two preceding weeks he had retained but little nourishment. I made a median incision about four inches long and immediately searched for the ileocecal valve and cecum, for the moment you arrive at the ileocecal valve you can then at once determine whether you have an obstruction in the small or large intestine. If you have a collapsed ileum you know the obstruction is further up; if the ileum is dilated then you know at once you must seek lower down in the bowel. The patient was not able to bear anything more than a brief exploration for the seat of the obstruction, and failing to find it, and the condition of the patient not warranting further exploration, I did a rapid artificial anus in the median line. On opening the gut there was an immediate enormous discharge of fluid feces. The operation was done early in the day and the patient died about ten o'clock that night; the autopsy discovered the condition which you see here.

These cases of sigmoid volvulus, as a rule, depend first of all on the existence of chronic constipation, the chronic constipation bringing one loop down by the gravity of the retained feces, thus favoring a volvulus. In these cases of volvulus of the sigmoid as a rule the attachment of the mesentery is very narrow.

The term sigmoid for this loop is an unfortunate one. It is not very much like the letter Sigma; it is very much like Omega. If the two branches of this Omega approach closely you have practically a sigmoid flexure with a pedicle and it is easy for that pedicle to become twisted. On the other hand here, if the arms are wide apart there is no pedicle, and a twist is not so likely to occur. Cases of sigmoid volvulus are, as a rule, accompanied by a great deal of distention of the intestine. While there was some distention in this case there was not the excessive distention I expected. It is also stated that in these cases you also get ballooning of the rectum. That I did not observe here, nor do I think the specimen shows it.

I think as surgeons we are too anxious, in operating for intestinal obstruction, to do too much at one sitting. We forget that we have to deal with greatly diminished resisting power in our patient. While it is desirable that a preliminary examination should be made to ascertain exactly the condition and the cause of the obstruction, nevertheless, without this knowledge, in the majority of cases, we shall save many more lives by making an artificial anus, either immediately or after a brief search has failed to find the cause of the obstruction, than if we do the operation of Kraske, which I myself have done and saved one patient out of three, which is a pretty good record. My general habit now is to put some one in whom I have confidence at the pulse of the patient, so he can warn me when it is flagging to such an extent that I must stop my explorations. I then simply pass two fingers into the abdominal cavity and search for the diverticulum, if one exists; failing to find that I then find the head of the cecum and ileum and thus decide whether the small or large intestine is involved. These cases unfortunately are not turned over to the surgeon soon enough. If instead of delaying two weeks and giving the patient powerful cathartics and powerful enemata the case in question had come into the surgeon's hands sooner the result might have been different. Even with a rapid operation and every care the patient died shortly after. One could not wonder at a result of that sort, especially in a case of chronic obstruction where the patient's nutritive powers had been diminished for so long a time.

234 Clinton Street.

DISCUSSION.

Dr. Payne: In order that the record of this interesting and unusual case may be complete I have brought with me the history of the patient before he was transferred to the Surgical Service, and also a report of the autopsy.

History.—Mr. W. C., age 38; U. S.; a driver. Admitted November 13, 1899. Died December 4, 1899. Autopsy December 7, 1899. Cause of death, acute intestinal obstruction, due to brides constricting the sigmoid flexure and followed by volvulus.

On admission he complained of pain over lower abdomen, which shifts go back. Eructations of gas. Well, up to six days ago. Appetite became poor and he grew constipated; vomited every day from Tuesday to Saturday. Vomitus at first greenish, then a white phlegm.

November 28th.—Bowel distended with gas. High rectal tube passed, not effectual. Enema of olive oil, turpentine and soap suds given.

December 2nd.—Distention great. Vomited fecal material, pain considerable; rectal tube again passed, seems to meet with obstruction 18½ inches up.

December 3rd.—Went to stool, had small movement.

December 4th.—Sent to surgical ward.

Abdomen markedly distended, appearance cachectic; loss of much flesh and strength. Alternate constipation and diarrhea, extending over a period of twelve months.

AUTOPSY FINDINGS.

External Appearance.—Emaciation moderate. Abdomen much distended. Artificial anus present and patent. Fluid feces exuded therefrom. Pupils equal and contracted.

Internal Appearance.—Intestines greatly distended throughout. Connection of cecum with abdominal wall complete.

Sigmoid Lesion.—On inspecting the lower part of the sigmoid flexure a kink was observed involving this and the portion of the rectum possessed of a mesentery. This kink when first seen projected downward, forming a loop in the junction between the greatly distended sigmoid above and the contracted, straight rectum below. The right portion of the loop had a small band that stretched across the most dependent portion and connected with the posterior surface of the bladder. This right-hand portion is believed to have been posterior to the left-hand portion at one time, but now the loop only, without any overlapping, is present. This right-hand portion, while behind the other, is believed to have contracted the band attaching it to the bladder wall. This would, of course, cause the band to pass above the present left-hand portion and at that time the lower portion of the loop.

This loop in its natural state showed two constricting points, separated from one another by 25 cm. The left one is believed to have been the anterior of the two when a complete turning of the gut was present and the two points were together; the former was more constricted than the latter, or left one, and yet through it could be passed the tip of the little finger. It persisted after inflation and showed considerable plastic peritonitis around it, while the left or distal constriction nearly disappeared after inflation.

The whole loop was about as large in the original state as the turn produced by bringing the end of the middle finger into the palm. It was about one-half the circumference of the sigmoid above and exceeded the size of the contracted rectum below by two-thirds. Below the rectum was empty, above the gut was distended by a semifluid, soft, pultaceous, yellow mass of feces.

The peritoneum showed no change other than that mentioned.

The diaphragm reached to the third rib on both sides.

Head.—Brain and meninges normal.

Heart.—Normal in every respect save a beginning tumor atrophy of the myocardium; perhaps this accounted for the feeble state of the pulse.

The general state of the vascular system was good.

Lungs.—Pleuræ quite free and normal. Pulmonary parenchyma showed no change other than a passive congestion.

Stomach and Intestines.—The former inflated by gas, but no fecal matter present.

The intestine has been described. In spite of the condition no active inflammatory change was present.

The mucous membrane was normal. Here and there in lower ileum could be seen longitudinal hyperemic areas, the size of three dimes laid side by side.

Liver.—Enlarged and slightly fatty.

Spleen.—Light in color, soft, friable and easily macerated.

Kidneys.—Normal. Small deposit of fat.

Bladder.—Normal. Posteriorly somewhat pouched by pulling of band.

COMMENT—POINTS OF INTEREST.

Symptoms.—1. Unpronounced intestinal symptoms extending over a year.

2. Patient, however, claimed to be quite well until six days before admittance.

3. No symptoms presented up to two days before operation of sufficient severity to lead to diagnosis.

4. Day before operation well enough to go to stool. At this time had a movement.

5. Passage of a tube 18½ inches up when obstruction that was causing death involved the free portion of the rectum.

Diagnosis.—1. The presence of fecal vomiting without any previous severity of symptoms of prostration appears to have determined the physicians to refer case to surgical ward.

2. Shall the history of a year be accepted and the irregular intestinal symptoms lead to a diagnosis of chronic in contradistinction to an acute intestinal obstruction?

Pathology.—1. Was a complete volvulus ever present? A mere touch of the finger would convert readily the loop into an overlapping and then the constricted portions of the loop would be together. When this was done the point of attachment of the band to the gut and bladder wall would also be brought together.

2. Did a band or volvulus cause the obstruction?

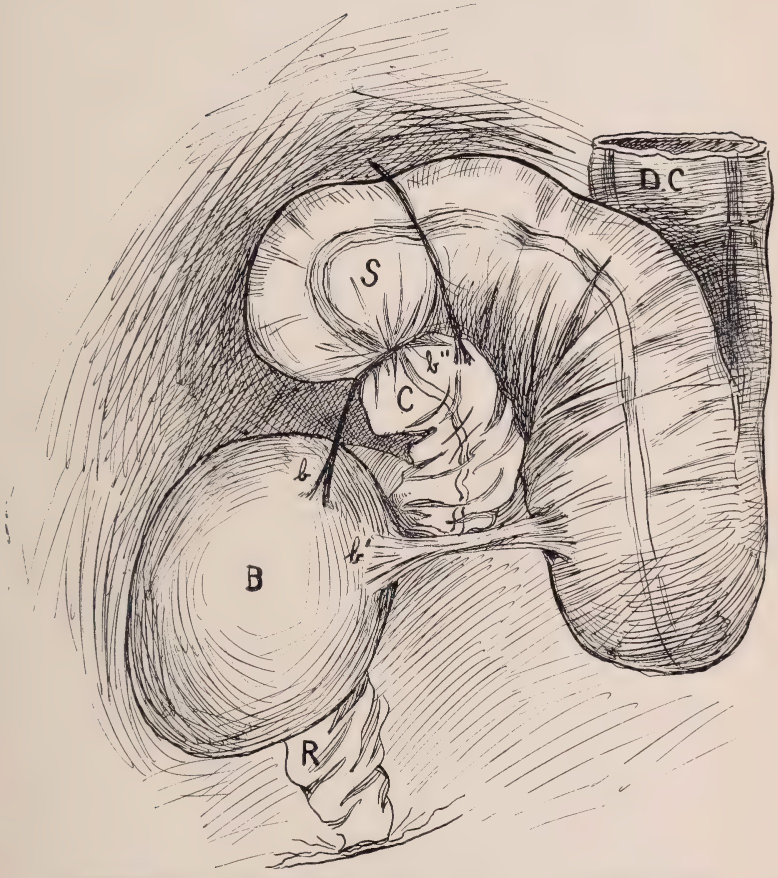
In view of the above it is believed that a small volvulus first existed and slight obstruction was produced. This led to a localized peritonitis and the promotion of a band between the gut and adjacent bladder wall.

However, the obstruction growing greater and the weight of the volvulus increasing, with the forces of the distended gut above pressing downward, the band was stretched and these forces continuing to act a loop was made out of the volvulus. The band then would be regarded as wholly secondary.

Perhaps this first turn should not be called a volvulus, but any way the overlapping that was present with the structures thereabout was sufficient to cause obstruction of low grade.

3. It would appear that in view of the great contraction of the gut produced by peritonitis, particularly the tuberculous variety and all without obstruction becoming manifest, there is no reason why obstruction should show itself in this case. Here the most contracted portion would admit the tip of the little finger.

Dr. Payne: The physician in charge says he passed a rectal



INTESTINAL OBSTRUCTION DUE TO BRIDES AND VOLVULUS.

Presented by ALGERNON T. BRISTOW, A.B., M.D.

D.C. Descending colon.

S. Sigmoid flexure, over-distended and twisted.

C. Collapsed and empty sigmoid flexure below brides and volvulus.

R. Rectum.

B. Bladder.

b. Bride between bladder and mesocolon, very slender, closing gut by compresston.

b^{1}. Bride between bladder and sigmoid flexure.

b^{11}. Bride between sigmoid flexure and posterior abdominal wall, partially compressing gut.

tube 18½ inches up the gut; this obstruction seems to occur about eighteen inches up. Whether this tube could have passed through the volvulus, I do not know, but Dr. Bristow failed to bring out the point that up to the time of operation he could pass something through the bowels and I could get the tip of my index finger into the most constricted point. This man never did have complete constipation and he only had fecal vomiting about the time the operation was performed. The question arising in my mind is whether the surgeons would have been fully justified in operating upon this case before they really did, because the man never had complete constipation and had no vomiting of fecal material and said he felt quite well. I saw the man daily and he did not appear to have the symptoms of intestinal obstruction.

Dr. Wood: Was the tube a stiff one or one of the soft ones?

Dr. Bristow: I cannot inform you, but I should judge it was a soft tube, and I believe the tube probably turned on itself, as it often does.

With regard to the stercoraceous vomiting, it is very rare to get that. The history shows the man had every symptom of intestinal obstruction—not necessarily a complete one—for several days. The thing that suggested itself to me was an annular carcinoma, in view of the fact that first of all he had for a period of six months, as he told me, alternate constipation and diarrhea; and second, the great loss in weight, from 150 to 125 pounds. We all know that in this obstruction low down, enemata will bring the fecal matter that comes away below the obstruction. The fecal matter after the obstruction becomes complete is below the obstruction and not above it. I do not say that it is a common thing for surgeons to be called in consultation in cases of acute intestinal obstruction which have been going on for forty-eight hours and which should have been operated on certainly within twelve hours; and meanwhile valuable time is wasted in giving high enemata to the patient with a vast amount of distention and acute pain and vomiting.

Thyroid Gland; Hyperplasia; Degeneration; Specimens.

William A. Payne, M.D.

I present a few specimens that came to me in the Pathological Department of the Kings County Hospital and possess some interest.

The first that I will show you are two cases of enlarged thyroid gland. In the two combined you will find nearly every variety of degeneration; cystic, colloid, fibrous, and calcareous.

Stomach; Round Ulcer: Specimen.

Russell S. Fowler, M.D.

This ulcer of the stomach is very interesting principally from its history. The patient, a woman of 35, was brought into the Brooklyn Hospital on the ambulance as a removal case. The history was that for several years there had been various disturbances of digestion of an indefinite character. Two days before admission there was an attack of intense pain in the epigastrium, without fever and without rigidity; her physician gave her some morphin but the pain continued. She felt better for a little while and then became worse. The physician then called an ambulance and she was removed to the hospital a few blocks distant. While in the ambulance she suddenly collapsed and when brought to the hospital was in a dying condition. She died half an hour after admission, and before anything could be done for her. An autopsy showed a rapidly perforating ulcer of the stomach.

In this particular case perhaps nothing could have been done for the woman after she was admitted to the hospital, but we do see patients of this kind, many of whom can be saved. I think that, as a rule, the general practitioner pays too little attention to pain in the stomach. Persons with indefinite stomach symptoms, no matter how indefinite, who suddenly develop pain in the stomach which is persistent, I think should always be subjected to an exploratory laparotomy; or if not always, in a great many instances.

Intestine; Typhoidal Ulcers; Specimen.

Louis Curtis Ager, M.D.

This specimen was obtained at the Norwegian Hospital from a sailor who came in there with a typical case of typhoid fever in the second week. I only present it because it is such an unusually well-marked specimen, the ulcerations of the Peyer's patches are so clear. Of course it does not show quite as well now as it would in the fresh specimen, but there is no difficulty at all in observing them. Another important point is the extreme enlargement of the mesenteric and also of the retroperitoneal glands.

Appendix; Perforative Appendicitis; Specimen.

Russell S. Fowler, M.D.

This specimen was removed by George Ryerson Fowler at the first operation in the new German Hospital in St. Nicholas avenue, December 7, 1899. A perforative appendicitis with acute septic peritonitis existed. No bacteriological examination was made of the contents of the abdominal cavity, but considerable pus was present in various parts of the cavity. The case made an uneventful recovery.

Liver; Carcinoma; Specimen.

William A. Payne, M.D.

In an autopsy we came across this typical and beautiful carcinoma of the liver.

Lungs; Carcinoma; Specimen.

William A. Payne, M.D.

This specimen I have diagnosed as primary carcinoma of the lung. I have never before seen a case of primary carcinoma of the lung and only one of secondary. In making the autopsy I first examined the pleural cavity for exudate or adhesions, and found a well defined mass on the left side, one in the lower and one in the upper segment. The lower is about the size of a small orange and the upper one about the size of a small cocoanut. The line between the lung tissue and the tumor proper is sharply defined.

Vertebra; Fracture of Second Lumbar; Specimen.

William A. Payne, M.D.

This is a cross section of the spinal column from the dorsal vertebra. A fracture of the second lumbar vertebra, with fracture of the spinous process exists. This presented very few symptoms physically, and I think that this fact constitutes the interest in the case.

Humerus; Fracture of the Head; Specimen.

William A. Payne, M.D.

This case here is a fracture of the head of the humerus. The patient died of acute mania.

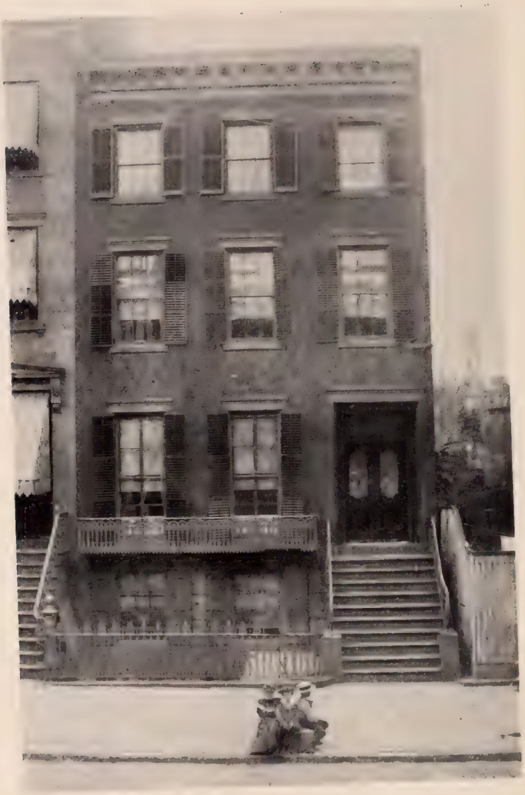
Axillary Glands; Tubercular Adenitis; Specimen.

Frederick J. Shoop, M.D.

These tubercular glands were taken from the axilla. The child was eight years and a half old when she came under my observation. A little over a year previous to this she had an abscess in the arm, about the middle of the lower third, which had been excised and which healed promptly. A few months afterwards a swelling came in the axilla, and her family doctor who was not a surgeon merely lanced it. The sinus thus formed discharged pus for nearly a year before it healed up. A month or two later it broke out again and seemed to communicate with a mass of enlarged glands, so I advised her to have these removed and I excised them, with some difficulty, as the inflammation had caused them to be adherent to all the structures in the region. There seemed to be quite a number of these enlarged glands, probably tubercular in nature. The wound healed promptly and the child began to gain in flesh and lost the cachectic appearance of the countenance she had before that. There is no pulmonary trouble I could detect. She seems to be quite strong now.

HENRY P. DE FOREST,
Secretary.

369 Hancock Street.



First Building of the Medical Society, County of Kings.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

EDITOR IN CHIEF: JOS. H. RAYMOND. M.D.

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VOL. XIV. No. 5. Whole No. 149. | Brooklyn, N. Y., May, 1900. | Single copies 25 cents $2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

DISPENSARY EXPERIENCES.

BY F. S. KENNEDY, M.D.

Read before Medical Society County of Kings, December 19, 1899.

The marked prominence which has been given the Dispensary question during the past few months by our city authorities, together with the putting into effect of the new Dispensary Law, makes the time seem opportune in which to discuss the management of some of our dispensaries from the inside point of view and also to relate the story of the outside observer, both professional and layman.

My first introduction to dispensary work occurred while I was an undergraduate. Through the influence of my preceptor I was permitted to attend the clinics at the Good Samaritan Dispensary in Essex street, New York.

Here I found that to become a member of the staff, when a vacancy occurred, it was necessary to pass a preliminary examination in German, a written examination upon subjects connected with the special work of the vacant clinic, and a practical examination upon the patients applying for relief.

This examination is conducted by physicians not connected with the dispensary in any way, and is open to the entire profession. Personal influence does not count. At a recent examination the place was secured by a physician from Tennessee.

At this dispensary members of the staff receive remuneration at the rate of $200 a year for each hour of the clinic, and attendance is required for either three or four hours a day, every day in the year, except Sundays and holidays. For a daily attendance of three hours a day the physician receives $600 a year. Regular and prompt attendance is, of course, required.

A Superintendent, or Chief of Staff, who must be a physician, is appointed by the Trustees without examination; he is the representative of the Trustees, and receives a salary of $100 a month.

An assistant chief is also appointed, who is examined with special reference to contagious diseases. His duty is to assign the applicants to the proper department, and to bar out all contagion, and to refuse all but the poor.

This system has marked advantages both for the Board of Trustees and the Staff. The Trustees know that they are maintaining a standard of professional ability and are getting the best of the available material. The Staff knows that it is getting a slight income from the work, in addition to the professional experience, and the attention is undivided.

So successful and satisfactory is the result that vacancies occur only at long intervals, possibly once in two years, and then usually because private practice forces a resignation.

With the workings of this institution in mind, it was my desire to do dispensary work in Brooklyn. As one professional brother told me, it would give me legitimate advertising by means of the dispensary cards, carried by the patients to their homes.

An opportunity soon offered for me to act as a substitute in a near-by dispensary, where for three or four months I cared for the clinic of a physician with whom I was not acquainted, who had gone to Europe, during which time the cards bearing his name and address were continued.

During this three or four months I was constantly urged by the Chief of Staff to persuade the patients to make as large a contribution as possible to the tin box on the wall. At the same time it was expected that in writing prescriptions a preference should be given to tablets rather than to liquid mixtures, as the former had a low cost price, and a good price could be obtained for them from the patient, without the trouble of compounding. After the day's work was over, the little tin boxes on the wall were opened by the chief, and the contents emptied into the overcoat pocket, often without being counted, probably to remove temptation from burglars. Sometimes car-fare and papers were paid for from this same pocket. It is almost needless to say that the staff was continually changing and would have continued to do so if the chief himself had not resigned. A complete re-organization took place, and it is now one of our most worthy charities.

Shortly after this I chanced to meet a developing specialist, who had been doing good work, both for himself and the patients, at an un-named institution, and who had taken kindly to its methods.

He had established a dispensary on his own acount, and had been elected chief by the men who had been invited to help him. He spoke feelingly of the new charity, and how smoothly things were running. It seemed to be an actual necessity to the neighborhood where it was started, and the clinical material was more plentiful than he had hoped for. The word *hoped* seemed to be emphasized, and so I asked him what was done with those who applied for charitable aid and were not entitled to it. Of course, these, he said, were not treated at the dispensary, but were sent to his office, where they paid such amounts as they could afford. At present it did not amount to much, not over twelve hundred dollars a year, but he hoped in time that it would improve.

About this time I was giving gratuitous treatment at my office to a poor woman whose road in life was a hard one, and being forced by other matters to suspend her treatment temporarily, I suggested that she attend a dispensary for the time being. Although being far from well, she was told at two places that she needed no attention, while at two others she was properly treated, but was told that she would have better attention if she went to the doctor's office, and that the office fee would be only half of the usual amount.

A method adopted with another case was somewhat different. A woman dependent upon an only daughter for support, without means to more than give her the actual necessities of life, but who always managed to dress neatly, found it necessary to have polypoid growths removed. Upon application at a dispensary she was requested by the attending physician to go to his office, where he could work to better advantage, and that it would be just the same to the patient so far as expense was concerned. When the work was done a bill for $30 was presented, with the comment that under the circumstances it would be receipted for $10.

These isolated circumstances bring to one's mind the definition of a lie, as given by a Sunday School boy, and to change its application to the dispensary abuse, " That it is an abomination in the sight of the Lord, but an ever present help in the time of trouble." Happily, this kind of so-called charity and this grade of physician is the marked exception, and the breed is dying out rapidly.

There is no doubt that dispensaries have been greatly imposed upon by people who are able to pay for medical attention, and who, on the other hand, have been made welcome because of an interesting case or from want of sufficient material. History and rumor tell of patients arriving in their own carriages at some of the New York dispensaries to see noted specialists.

My next experience was with the Bushwick and East Brooklyn Dispensary, which has now been installed in its new building, at Myrtle and Lewis Avenues for about six months. To obtain a place upon the staff of this institution it is necessary to be endorsed by three physicians, to be passed upon by a Membership Committee, and to be a member of some recognized medical society.

The first assignment is to out-door work, visiting those who apply for medical aid and who are unable to go to the dispensary. This out-door work lasts about six months, more or less, and the acceptance of any fee or remuneration is prohibited. If the family or person is found able to pay, treatment is refused and they are directed to apply to their nearest physician. The clinical experience gained in the out-door work is such that the physicians sometimes demur at giving it up for an in-door clinic.

Assignment to an in-door clinic is made according to date of original application, upon recommendation of the entire staff, approved by the Board of Trustees.

Acceptance of remuneration for out or in-door work, or for endeavoring to send patients to one's office for the purpose of getting a fee, is not only prohibited but upon proof calls for resignation or dismissal.

No objection is made if a patient, of his own accord, calls the physician from his office to the home, or of calling upon the physician at his office, in which case the usual fees are charged.

The names of the attending staff are not publicly displayed at the dispensary, nor are they usually given to those who apply for aid and are able to pay. Such people are directed to call upon physicians in their own neighborhood, as experience has demonstrated the fact that where the name of one of the dispensary staff is given, the applicant expects to receive free treatment.

In order to get the greatest possible benefit from the work of the dispensary, the staff have organized a Clinical Society, composed of the active and consulting members of the staff, and hold monthly meetings, at which all available cases and reports of other cases are presented from the various clinics for the benefit of the entire staff, and freely discussed.

These meetings are so highly interesting that it is rare to find more than two or three members absent.

It is of interest to note that under the new law, which provides a punishment for those who accept charitable treatment and are not entitled to it, the number of applicants has been somewhat reduced. Many apply, however, who are not entitled to aid, the fact being shown when they fill out and sign the card of application, as now required.

Some of these are refused treatment by the registrar when the number of persons in the family, the weekly income and the amount of rent paid, seem to show an ability to pay for medical assistance. In some instances, all information is refused, and in others the applicant refuses to sign the statement.

From those who have been refused treatment, the following selections are interesting:

With five in family, earning $28 a week and paying $18 a month rent.

With six in family; keeps a grocery store on Myrtle avenue; pays $20 a month, and thought the dispensary was for everybody.

A baker, getting $7 a week and his board, with no one but himself to support.

A painter, getting $12 a week, and paying $20 a month for board, with no one but himself to support.

A janitor, with family composed of self, wife and one child, getting $30 a month, with rent, coal and gas free.

A German, owns the house he lives in, and lives with his grown-up children, who are getting $20 a week.

A coffee saloon keeper, on Graham avenue, was able to pay $42 rent.

The obvious conclusion is that a dispensary is exactly what the management and staff want it to be. If these bodies are honest with each other and with the laity and profession, the maximum amount of good can be brought out for all concerned. If the managers are lax and careless, if the staff form cliques for personal gain, and if the dispensary is used as a " run-in " for the office, the whole thing is bad.

A dispensary is established and maintained to help the poor, and this fact is emphasized by the new law. The medical and surgical staff give their time and attention to the work for what experience and practice they can get.

If these boundaries are overstepped, the people are encouraged to become alms-takers, and the non-dispensary doctor not only loses the fee which should go to him, but he sees it go into other channels; often, through the dispensary, into some other doctor's pocket.

DISCUSSION.

Arthur C. Brush: I think Dr. Kennedy has struck the keynote which I have always insisted on, that the dispensary reform should come from the physicians themselves. Had the physicians acted by the dispensary and the public as they should have acted, there would be no necessity for any dispensary law, or any other legislation. We know very well, however, that certain ones have attempted to use the dispensaries as practice feeders, and that led to a condition which has confronted us of late, and the reform is necessary among the physicians before an ideal dispensary can be completed. The law, like all laws, is a compromise and is imperfect. Its workings cannot be foreseen now, but it should be clearly kept in mind that there is a wide difference between the rules formulated by the State Board of Charities and the law itself. The former can be corrected at any time by proper representation without any alteration of the law. They are yet experimental, and, like all experiments, must be tried. At present certain dispensaries show a marked tendency to comply with the law in every respect, others seem to neglect it. It now, of course, remains with the public authorities whether this will be corrected or not. It is entirely in the hands of the State Board, but it is obviously unfair that certain institutions should be allowed to go free while others do comply with the very strict and somewhat arbitrary requirements of the State Board.

The question, of course, comes down to who is and who is not a poor man. That cannot be defined, and as long as that is an open question, any legislation must be more or less of a failure. The dispensary itself, if properly used, is one of the best things we have and one which should be most thoroughly developed, but the way it has been developed and the amount of comment that has arisen has shown that this thing has been monstrously abused.

Joseph H. Raymond: Dr. Kennedy has done the Society and the profession a great deal of service in calling attention to this subject. I presume that we are all more or less familiar with the workings of the old dispensary, and many of us with the workings of those which we may call new, that is to say the reorganized ones under the rules and regulations recently established by the State Board of Charities. But if this law and these rules are to be enforced, the first thing for us to do is in some way to get together the authorities who have these dispensaries in charge and formulate some uniform system of government. As Dr. Brush has just said, the whole discretion as to the determination of who is poor and needy and entitled to dispensary privileges is vested in a registrar. Now as we all know, the registrars are human and the determination of who is and who is not so situated as to be properly a subject for the charitable services of the dispensary will depend entirely on his judgment. Now these registrars are men of varied experience, and inasmuch as this discretion is placed in the hands of these men, they should be instructed, otherwise the manner in which the rules and regulations will be carried out by the different dispensaries will be almost as various as the number of dispensaries themselves. I know of no way in which this can be better brought about than by some action taken by a society like this.

I do not know what the fact is, but I take it for granted that the staffs of most of the dispensaries are composed largely, if not almost entirely, of members of this Society, and it seems to me that we could do no greater service to the profession or to the community at large, both to the poor who are deserving people, and to the rich, who are undeserving of it, and who are, by the present arrangement, rapidly becoming pauperized in this respect—that we can do no greater service than by taking this matter in charge ourselves and bringing the dispensary authorities together and formulating some general rules for their guidance, and thus avoid making a comparative failure of this new law. It is too early for us to determine whether the rules and regulations are practical or not. Some institutions have carried them out to the very letter, with the result of diminishing the number in attendance to a very marked degree, and doubtless with the result of turning away from their doors many who were really entitled to charity. It is rather severe, I think, upon those who are entitled to charity to come into a dispensary and see posted on the wall, directly in front of their face and printed upon the cards, the penalty which they may subject themselves to if, upon being investigated, they are found able to pay for treatment. What makes one "poor and needy" is uncertain; as the standard is not one which has as yet been determined. Indeed, doctors themselves differ widely as to this. The figures which Dr. Kennedy has given us to-night are very different from some I have heard given by other dispensaries as to who would be regarded by them as "poor and needy." I know an institution where persons who receive $7 a week are regarded as poor and needy persons, even though they individually may be the only ones to be supported out of that $7 a week. It is difficult, as Dr. Kennedy says, to fix any exact standard and we must do something in the way of regulating this matter and in the way of fixing a standard if the law is to be made a success; and I would therefore suggest, if it is in line with the work of the Society, that a committee be appointed to see if something cannot be done towards bringing together the various dispensary authorities and formulating some rules and regulations which will serve as a guide to the dispensaries. Then when we come to this matter of investigating the applicants, the registrar, who determines that a patient is probably competent to pay, must investigate that case. Now, if every dispensary is to have its own investigators it means an immense amount of work and it means a very expensive undertaking, and besides it is probable that after one set of investigators had been over the ground, a second would find it difficult to obtain much information. On the other hand, if there is some central bureau, like the Bureau of Charities, to conduct the investigation, it would minimize the cost, and the result would be very much more valuable. I presume that body already has records of a large number of these patients who apply to the various dispensaries, and they know their history already and could give it by a simple reference to their index. Certainly after a month or two of investigation and receiving the names from the different dispensaries, they woud be able to eliminate the rounders and be able to give information which the dispensaries, if they were to obtain it or seek to obtain it for themselves, would find a very difficult task.

I simply throw this out as a suggestion; it would be very desirable if this Society would take the matter up and use its influence, and give its co-operation, in enforcing this law, which has doubtless certain defects, but which also has its merits. When once carried out, these defects will show themselves and can very soon be remedied.

Dr. de Forest: A short time ago I had an opportunity to see the practical workings of the best dispensary system to which my attention has been directed. The city of Washington has gone over this subject pretty carefully, and the plan which they have adopted is practically the one which Dr. Raymond has just suggested.

A person goes to any dispensary or hospital in the city, and they are treated without any questions being asked. When they leave they are given a card which they are obliged to take to the Bureau of Charities. This card states that Mr. A. B. has applied to a certain dispensary for treatment. The Bureau of Charities maintains an investigating committee, and before that patient can receive any subsequent treatment at that dispensary he must present the card filled out by the Bureau of Charities, and stating that they have investigated the condition of Mr. A. B. and find that he is a worthy object of medical charity. This concentrates all investigation to the one body, which, as Dr. Raymond has said, knows the status of a great many people already and keeps a record of it. It also saves the dispensary officers from any monetary consideration in connection with their work and is altogether satisfactory. It has been on trial in the District of Columbia for four years, and the medical profession there unite in saying that it has been one of the best measures ever devised to solve the dispensary problem.

Dr. North: I think that Dr. Brush's remarks hit the nail on the head. This reform should come from within the profession. We, as a body, have been educating our patients to become paupers. That is the case particularly in regard to the special dispensaries; I mean the dispensaries such as the Brooklyn Eye and Ear, and dispensaries doing special work. It is a common thing at the Brooklyn Eye and Ear for us to be told, " Why, of course, we pay our family physician; that would be an outrageous thing not to do that, but we were sent here by our family physician;" and I know some family physicians who do not hesitate to send their patients to the Brooklyn Eye and Ear for gratuitous treatment, making the statement, "Well, if we send them to the specialist he would charge a high fee, and when we present our bill we are told to wait; the specialist charged so much he must be paid promptly, and we will have to wait." That is the case with some men of considerable experience and of some prominence in the city, and it is not at all an uncommon thing for us to have our patients at the Brooklyn Eye and Ear almost insulted when we ask them if they pay their family physician. And so, Mr. Chairman, it seems to me if we are going to reform the dispensaries we have got to begin right at home, and start reforming our own methods. If we educate our patients to become paupers for treatment of their eyes and they find how easy it is to have their eyes treated, the next thing would be for them to go over on the other side and have their noses and throats treated, and from that room wander to another room and be treated for mental and nervous troubles, and consequently before the family physician knows it he has lost his case, and instead of saving his bill he simply has lost his patient, because the moment a patient who is able to pay once receives medical services without paying he is on the downward road to—I was going to say destruction—I guess that is about right, for he certainly is on the downward road to never paying another doctor's bill.

Dr. Schroeder: I simply desire to add a word of commendation to the paper read this evening. I have never been connected with any hospital or dispensary, nor do I think I ever shall be in my life, but I have always looked on this question of dispensaries as detrimental to the medical profession in every particular. I never could see any reason why there should be a dispensary in the city of Brooklyn except one connected with a medical college. There are large cities in Europe which take care of their sick poor without any trouble, and I question whether there are ten in a hundred that apply to any dispensary in the city of Brooklyn that are honestly poor. I think most of us attend to the poor of this city without any trouble; the honestly sick poor person is attended by the family physician year after year and no questions are asked. My opinion about these things is simply this: In order to make a person self-sustaining it is absolutely necessary that he shall have something to do, that he should be given to understand that in order to have something it is necessary to labor for it. The great majority of dispensary patients that I have seen in dispensaries have been people that have got more money than I have; in some cases worth more money than I will ever be worth, and more than two-thirds of the physicians in Brooklyn are worth to-day or ever expect to be. It is a fact that the profession in this city is gradually becoming poorer financially. When I go around to the widows of members of this Society and notice the condition of things there after the physician has gone, and then think that there are thousands and thousands that go to dispensaries, I claim that there is something radically wrong somewhere. If it is possible for the medical profession to so look at this thing as it should be looked at, and if you are continually raising the standard of education and charging double the fees for your education, I do think you ought to allow the students to have something to do after they are graduated and not educate every patient and make him feel that the services of the physician amount to a cipher, and that he can get all he desires at the dispensaries. I speak this way—it may not be exactly the right tone—but it is the practical experience of a great many of us; and it is my observation that many widows of physicians who now put out signs as boarding-house keeper or music teacher and all that sort of thing, would be able to do differently if this dispensary system was regulated as it should be. It is all wrong, it should not be. If this committee can, it should formulate some way in which those who are earning $7 a week and have nobody to look after but themselves can afford to pay their dollar to the physician; anybody who can afford to pay $20 a month rent and cannot pay a $1 office fee to the physician—he has my sympathy. Of course, there are men who are earning $12 a week, with six children, who pay their physician promptly, and there is no reason why these others should go to the dispensary.

Dr. Kennedy: My feelings in this matter, Mr. President, are somewhat like those of the small boy who lit the fuse of a set-piece of fire-works, and was quite surprised at the beautiful display that followed. The questions that have been raised are very opportune and questions that have been raised repeatedly at the dispensary with which I am connected. The question as to how to determine the status of a man or woman who applies for help is one of marked difficulty, and, as has been said, it is in the hands of the registrar. He usually reaches a conclusion by the general appearance of the patient, the story of his income, the rent he pays and the number in the family. If any doubt arises in his mind on the subject, he passes the patient in to the clinician, and the investigation is continued there. I do think the penalty card sends away a great many people from the dispensary. We have instances where the application for treatment has been made and the patient passed by the registrar. While waiting for his turn to come, the patient reads the card and then goes out.

The suggestion of Dr. Raymond and of Dr. Van Cott that a committee be appointed, I think is in the right direction. There certainly should be some harmonious action on the part of the dispensaries in this city. The matter is a very broad one, and I am sure that by concerted action, a happy solution will be reached.

SOME POINTS IN THE CHEMISTRY OF COW'S MILK, WITH REFERENCE TO INFANT FEEDING; WITH A DESCRIPTION OF A METHOD FOR HOME MODIFICATION OF COW'S MILK.

E. H. BARTLEY, M.D.

Read before the Brooklyn Pediatric Society, Dec. 15, 1899.

It is generally conceded that human milk is the best food for infants; human milk then becomes the pattern after which we should prepare an infant's diet.

Of the milks available in this locality for the production of an infant food, cow's milk is the chief one. It can be safely stated that no food for infants will be successful which does not have for its basis a very large proportion of cow's mlik.

In order to modify cow's milk to make it suitable for infant feeding, it is necessary to clearly understand the differences in composition and behavior of human and cow's milk.

The analyses that are usually published of the differences between the human and cow's milk express only a part of these differences. There are many differences not usually shown in such tables.

In order to bring out these differences more exactly I have arranged the following tables:

TABLE OF ANALYSIS OF HUMAN AND COW'S MILK.

	Average Human.	*Average Cow's Milk.*
Water	87.29	87.41
Solids	12.71	11.59

Fat	3.78	3.66
Sugar	6.04	4.62
Caseinogen	1.03	3.01
Albumin	1.26	0.70
Ash	0.31	0.68

TABLE SHOWING DIFFERENCES BETWEEN HUMAN AND COW'S MILK.

PROPERTIES.	HUMAN MILK.	COW'S MILK.
Physical Appearance.	Bluish, Translucent, Odorless, weetish.	Opaque, White or Yellowish-white, Distinct Odor, Feebly Sweet Taste.
Specific Gr.	1026 to 1036.	1029 to 1035.
Reaction.	Amphoteric or Slightly Alkaline.	Amphoteric or Slightly Acid; Becomes Quickly Acid on Exposure to Air.
Behavior on Boiling.	Does Not Coagulate, and Forms a Very Slight Pellicle, Scarcely Observable.	Does Not Coagulate, but Forms a Distinct Pellicle of Casein and Lime-salts.
Spontaneous Coagulation.	Coagulates Only after One to Two Days at Room Temperature.	Coagulates after Six to Twelve Hours at Room Temperature, Due to Lactic Acid.
Coagulation with Rennet.	Coagulates Incompletely in Small Isolated Flocculi, Never Forming Visible Curds.	Coagulates at Body Temperature, Separating into Curdy Masses and Opalescent Whey.
Fat.	Butter, Yellowish, Similar to Cow-butter; Sp. Gr. at 15° C.=0.966; Melts at 34° C.	Butter, Yellow-white; Sp. Gr. at 15° C.=0.949 to 0.996; Melts at 35.80 C.
Composition of Fat.	Olein, Palmitin Stearin, Butyrin Caprin, Caproin, Myristin.	Olein, Palmitin, Stearin, Caproin, Caprylin, Caprin, Laurin, Myristin, Arachin, Butyrin, Lecithin, Cholesterin.
Relation of Acids.	Volatile Acids Relatively mall, Oleic Acid, one-half Non-volatile Acids.	Volatile Acids Relatively Large, Oleic Acid Small, Palmitic and Stearic Large.
Caseinogen.	Precipitated with Difficulty by Salts and Acids; Easily Soluble in Acids; Leaves No Pseudonuclein with Peptic Digestion.	Precipitated Easily by Salts and Acids; Precipitate not Easily Soluble in Excess of Acids; Leaves Residue of Pseudonuclein.
Composition of Proteids.	Lactalbumin, Lactoglobulin and Casein; Ratio of Casein to Albumin, 1 to 1.2 (?).	Lactalbumin and Globulin Small; Casein to Albumin, 1 to 7 or Even 1 to 10.
Mineral Matters.	Relatively Small Am't; Contains One-sixth as Much CaO and One-fourth as Much P_2O_5 as Cow's Milk.	Contains Relatively Large Amount.
Nuclein and Lecithin.	Nuclein, 1.2 Gm. per Liter (Siegfried) Lecithin, 1.7 Gm. per Liter (Stoklasa).	Nuclein, 0.6 Gm. per Liter (Siegfried); Lectinin, 1 Gm. per Liter (Stoklasa).
Bacteria.	Generally Sterile, Rarely Staphylococcus Albus and Aureus.	Contains Numerous Bacteria, and Occasionally Typhoid Diphtheria, Tubercular Organisms, etc.

It will be seen from this last table that there is a difference in physical appearance. The human milk being more translucent, and this is due to the fact that the caseinogen is in more perfect solution, while in cow's milk it is not in perfect solution, and is quite easily filtered out by a clay filter. In specific gravity there is no characteristic difference. In reaction, a decided difference; the human milk being alkaline, while the cow's milk is neutral or slightly acid.

In behavior on boiling, there is a decided difference in the pellicle formed. On spontaneous coagulation the two milks, as is well known, behave very differently. The same is true of coagulation with rennet. The fat differs in composition; that of cow's milk being much more complicated in composition than the fat of human milk, there being also a very much larger proportion of volatile fatty acids in cow's than in human milk.

In the composition of the caseinogen, we notice a difference in the amount of phosphate of lime, that of cow's milk containing a very much larger proportion than that of human milk.

Lehman says that "Cow-casein is a double compound of casein-calcium and calcium phosphate, in which 1.4 to 1.7 per cent. of the calcium present is combined directly with the casein."

Cow-casein contains about 7.2 per cent. of ash, with 6.6 per cent. of calcium phosphate, while human casein contains but 3.2 per cent. of this salt. This difference is made more striking when we remember that human milk contains but one-third as much caseinogen as cow's, and hence but one-sixth as much calcium phosphate in this combination.

All chemists who have studied the subject admit that the two caseinogens, as they exist in the milks, are not alike. The digestibility of the two caseinogens show them to be different, as human caseinogen digests with ease, leaving no residue, while cow-caseinogen leaves a residue of pseudo-nuclein, much of which is lost in the feces.

The ratio between the caseinogen and albumin is very different in the two milks. The ratio in human milk is approximately 1:1.2, and that in cow's milk about 1:7. This difference in the ratio makes a very decided difference in the behavior of the proteids when coagulated, as can readily be shown by adding egg albumin to diluted cow's milk. The curds in this case are rendered much finer, more flocculent, and more easily digested than in a simple diluted milk.

The ash in cow's milk is approximately twice as much as in human milk. Besides the proteids usually shown in published analyses of milk, there are present two nitrogen compounds, which have a very important bearing upon nutrition. These are nuclein and lecithin. These two substances are present in both cow's and human milk, but in very different proportion, as will be seen on reference to the second table.

It has been shown that in human milk the most of the phosphorus exists in organic combination; that is, in these phosphorized compounds above referred to. In cow's milk, on the other hand, the most of the phosphorus is in inorganic combination, as calcium-phosphate, probably in loose molecular combination with the caseinogen.

Now with these differences clearly outlined in our minds, we can readily see that it is impossible to overcome them in an infant food. There are inherent differences in the two milks that the science of chemistry is unable to overcome, and a perfect substitute for human milk will probably never be accomplished. There are certain differences, however, which can be adjusted to a very considerable degree; for example, we can add milk-sugar to make the percentage of this ingredient practically the same. We are not sure, however, that when we take milk-sugar that has once been crystallized from milk by evaporation, and add it back into the solution, that it will again take up the same amount of water that it originally had. It would seem from the behavior of milk-sugar in infant digestion that it is never the equivalent of the milk-sugar as it originally existed in the milk. This, however, is a matter more of supposition than proof, and it is quite likely that even with this drawback it is more nearly suited to the digestion of the infant than cane-sugar. In many of our methods of modification of milk, in pasteurizing or sterilizing for example, some of the cane-sugar will necessarily be inverted, and become much more easily fermentable in the infant's stomach because of this fact. Milk-sugar is not so liable to undergo inversion by such simple means, and cannot ferment until such inversion has taken place.

It is well known that the two sugars are physically and chemically different. When cane sugar is inverted, it is converted into dextrose and levulose, while milk sugar by inversion is converted into dextrose and galactose. While we may not fully understand all the significances of these sugars in digestion, we call attention to these facts here to show that the two sugars are entirely different in their behavior outside of the body, and presumably also inside the body.

But it is in the digestion of the proteids that it is generally believed the child has the greatest difficulty. A part of the reason for this is seen at a glance when we compare the percentage of caseinogen in the two milks, and the relation of this ingredient to the albumin. We observe that cow's milk contains about three times as much caseinogen as human milk. This, taken with the fact to which we have already called attention, that there are certain chemical and physical differences in the two caseinogens, makes this fact of more importance. Another difference is in the state of solution of the caseinogen in the milk. That of human milk is much more completely in solution than that of cow's milk. This may be readily demonstrated by placing some of the two milks side by side under the microscope, when it will be seen that the field between the fat globules in human milk is almost clear and transparent, while in cow's milk it is always granular, the granules consisting of caseinogen. But there are other proteids in milk to be taken account of. Albumin and globulin are present in both human and cow's milk: In human milk albumin is present in a little larger amount than the caseinogen, while in cow's milk it is about one-fourth or one-fifth as much. This fact seems to have been lost sight of by writers on infant feeding, much to the detriment, it seems to me, of the infant.

It is generally recommended, in modifying cow's milk for very young infants, to reduce the proteids to about one per cent., or even lower than this.

The analyses of Heubner show that human colostrum, during the first eight days, contains from two to three and a half per cent. of proteids, and sometimes as high as 6 or 7 per cent., but the most of this proteid is in the form of albumin and globulin, and not caseinogen. The fat and sugar are both below the normal amount during this colostrum period.

H. Tiemann (*Zeitschr. für Phys. Chem.*, Vol. 25, p. 362), found that in cow colostrum the total proteid matter was from seven to twenty per cent., but that this excessive amount was made up principally of lacto-globulin.

It seems, therefore, that if we are to take the composition of human milk as our guide in feeding infants, it is a mistake to reduce the proteids down to less than one per cent. during the early weeks. This, however, is rendered necessary in feeding with cow's milk, by the fact that experience shows that infants cannot digest a larger proportion of caseinogen. Experience also shows that they can digest a larger proportion of soluble albumin, and that they fail to thrive as they should when the proteids are reduced to so small a quantity. If we were to imitate the composition of human milk, at this early period, we ought to feed a mixture containing about one-half as much caseinogen as of albumin. We should then find that this mixture will coagulate with acids or with rennet strikingly like human milk, and much of the difficulty encountered in feeding very young infants, would be overcome. But we meet with difficulty in producing such a mixture by simple means. We may use white of egg to add to the milk, after dilution, and obtain a mixture somewhat resembling the composition of the proteids of human milk, with the exception that the lactalbumin will be replaced by egg-albumin. As to what differences there may be in the digestion of lactalbumin and egg-albumin, we have very little data. It is possible that there are certain differences, and that the lactalbumin is more easily digested than the egg-albumin, although albumins of the same class. Again, a careful examination shows that one of the proteids in colostrum not coagulated by acid or rennet, is globulin, another proteid still easier of digestion than albumin. In some cases, the most of the excess of proteid over that of normal milk is due to globulin. While egg-albumin does not contain a certain amount of globulin, it does not contain so large a proportion in comparison with the albumin as does colostrum.

As to the use of egg-albumin as a diluent of cow's milk, the experience of a large number of writers seems to be favorable to it, and one of the infant foods which has met with considerable success, contains this ingredient as its chief claim to superiority. My own experience would teach that egg-albumin is in most cases a suitable diluent for cow's milk in the preparation of infant food, and I am confident that by using egg-albumin to bring the percentage of albumin in the food up to that of human milk is a very desirable and very necessary procedure. That it causes the coagulation to take place in much finer flocculi, and to break up the precipitated casein so as to be much more easily digestible. It is remarkable that in almost all the published methods for the modification of cow's milk, this important fact is almost entirely overlooked, and until it is taken into account and we adjust the proportions of caseinogen and albumin to the proportions in human milk, we must expect the infant to have difficulty in digesting the proteids.

We have already referred to two other constituents of milk not usually represented in the published analyses. These are the two highly phosphorized compounds, nuclein and lecithin. We observe in the table that the proportion of these constituents, according to the investigations of Siegfried and Stoklasa, is nearly twice as much in human as in cow's milk. While the amount is small in both cases, there is enough to influence nutrition.

We may here remark that the nuclein of milk is in the form of para-nuclein or pseudo-nuclein, and is similar to that found in yolk of egg. This nuclein exists as a part of the caseinogen, which breaks up during its digestion into albumin and para-nuclein. This latter compound, in the case of cow-casein, is left as an insoluble residue, a considerable portion of which, as shown by Knopfelmacher, may be found in the feces. He found that when infants were fed first with human casein and then with cow-casein, much more organic phosphorus appeared in the stools when cow-casein was fed. He thinks that this explains, in part, why infants thrive better when nursed at the breast than when bottle-fed. Biedert thinks this residue furnishes a nidus for the growth of bacteria, and thus is a source of disturbance in the intestines.

These facts bring out another marked difference between the caseinogen of the two milks, and the disadvantages of cow's milk appear more strongly when we remember that the three per cent. of caseinogen in this milk contains but one-half as much nuclein as the one per cent. of human milk. When we reduce the caseinogen of cow's milk to one per cent. by dilution, we reduce the nuclein to one-sixth that of human milk, and even a considerable part of that is lost in the feces.

As to the significance of nuclein in nutrition, there can be no doubt. Kossel, Burian and Schur have shown that growing animals build up their tissues by the aid of nuclein, and that it seems to be a necessary constituent of food for this reason. It is probable that the nuclein and lecithin of the yolk of egg, which occur there in practically the same relative proportions as in human milk, are the chief agents in forming new cells in the growth of the chick. The lack of this element in the food of young animals leads to serious defects in nutrition. It has been shown, also, that nuclein is rapidly decomposed at a boiling temperature, the phosphorus separating as free phosphoric acid or as phosphates. The significance of this fact is self-evident when we attempt to sterilize milk by heat. This fact explains to us why children fed exclusively upon condensed milk, sterilized milk, and many of the artificial infant foods, become rachitic. Some of the older writers speak of destroying the *antiscorbutic properties* of milk by boiling it, without attempting to define exactly to what these properties were due. The above facts clearly indicate to what these properties of raw milk are due, and why sterilized milk does not meet the requirements of a nutriment for young children.

I do not know to what extent the heat of pasteurization may affect the nuclein, but it has been stated that the change in this substance begins probably below 155° F., but goes on very slowly at that temperature. We know less about the nutritive influence of lecithin than we do of nuclein. It has been stated by Stoklasa to have about the same value as the latter, but I find very little corroborative evidence in the literature of the substance. That it has some nutritive value is most probable from its presence in human milk in even larger quantity than nuclein, and also in yolk of egg in nearly the same relative proportions. It, too, is said to be decomposed by heat, and its phosphorus is split off in the form of phosphoric acid and becomes *inorganic phosphorus,* instead of *organic phosphorus.*

Röhmann has shown that when albumin and free phosphoric acid are fed together, the most of the latter passes off in the stools or urine. When the phosphoric acid is fed in combination with albumin, as nuclein, the most of it is retained in the system. This is equally true in feeding calcium phosphate, the most of which passes out by the feces. This has been proven by others. Any attempt to treat rachitis by the administration of inorganic phosphates must, therefore, be futile. The casein preparations and the yolk of raw egg, especially the latter, ought to furnish the system with an abundance of assimilable organic phosphorus, and enable us to treat rachitis more successfully than by the administration of phosphates or hypophosphites.

It is a matter of considerable interest to inquire how far other carbohydrates may be used to replace fat and sugar in an infant's diet. We know that in adults a considerable elasticity exists in this respect. We may replace fats with carbohydrates to a very large extent, for example, without much evident discomfort to the individual, and without much disturbance of nutrition, provided the proteids are kept up to the normal amount. Can this be done with safety in the case of infants? That it is frequently done there can be no doubt, and oftentimes with fairly good nutrition.

In foods that have been in favor for some years, namely: Malted milk, Mellin's Food, and a number of others, the amount of fat and milk sugar are abnormally low, and the deficiency is made up with maltose and dextrine.

J. Lewis Smith, Jacobi, and others have advocated the use of various cereal preparations as diluents of cow's milk. The most of them have advocated dextrinized flour for this purpose, and Imperial Granum, Eskay's Food, and a host of other similar preparations have had their advocates. While we are not advocating these foods, we must recognize that there must be some reason for their existence for so many years. I think it is but fair to admit that dextrine and maltose can, to a certain extent, replace fat and sugar, but I believe not without some disturbance in nutrition in the long run. It is certainly not physiologically correct to make this substitution, and I think clinical experience agrees with the physiological teaching.

The ratio of proteids, fat and carbohydrates, in human milk, is very nearly 1:1.5:3¼, while in cow's milk it is 1:1:1⅓. The average ratio in the diet of adults, according to a great number of investigators, is 1:0.7:3½. That is, the ratios of human milk are closely followed, with the exception that the fats are reduced about one-half, while the carbohydrates are slightly increased, though not enough to compensate for the loss of fat.

If, in cow's milk, we reduce the total proteids by one-half, we make the ratio 1:2:2⅔. If we use the average market milk, containing three per cent. of fat, and, after removing one-half of the proteids, we add some carbohydrates in the form of milk sugar, maltose or dextrine, in proper proportion, we can make the proportions 1:1.5:3¼, or that found in human milk.

If we dilute the milk supply with any of the ordinary diluents, we cannot obtain these ratios, for when we reduce the proteids we also reduce the fat in the same proportion. It is possible to obtain the proper ratio by using cream and milk; but, as I have insisted above, we lose sight of the proportion of coagulable proteid. Moreover, we find another difficulty in such mixtures in the fact that market cream is nearly always sour when we get it.

Neutralization with lime water does not check the growth of the lactic ferment already well under way, but merely neutralizes the free acid and promotes rather than checks the further growth of the organisms. The result of feeding such mixtures is almost always the production of excessive lactid acid fermentation in the stomach with vomiting. If we can always secure fresh centrifugal cream, this difficulty is partly overcome. But we cannot always get this.

Another objection to the use of cream, and one not easily overcome, is the impossibility of producing with it a perfect emulsification of the fat in the mixture. When cream is separated from milk and allowed to stand a day or two the fat globules collect into masses or conglomerations difficult to separate again, and which are not disintegrated in the usual process of making mixtures.

These conglomerations of fat globules may and do resist the emulsifying power of the bile and pancreatic juice, and thus escape absorption and are lost. The fat, in other words, is less easily digested or absorbed, to the detriment of the child.

In order to overcome this defect the fat to be used in the food should not be separated from the milk at all, or, if at all, as little as possible, so that a perfect emulsion may be obtained. The cream should be as fresh as possible, preferably not more than a few hours old and formed without free access of air. This feature is strongly insisted upon by Gärtner, in the preparation of his mother-milk, which has met with much favor in Europe, and to a certain extent in this country. He separates the milk into two portions by centrifugal action; the one rich in fat, and the other nearly free from fat, and then dilutes the rich, fat milk thus obtained. But he makes no attempt to adjust the proportions of albumin and caseinogen in his preparation, and in this respect his food is no better than the usual cream mixtures. Moreover, the preparation is sterilized by heat and is liable to all the objections of sterilized milk.

Having discussed the composition of cow's milk, and the differences between it and human milk, it remains to consider the application of this knowledge to the modification of cow's milk, to make it suitable for the nourishment and digestive powers of the infant.

Experience has shown that some modification of cow's milk is absolutely necessary in almost all cases. As exceptions to this rule, we occasionally meet with infants who almost from birth will thrive upon full cow's milk. It will be impossible and unprofitable to attempt to mention all the modifications and manipulations to which cow's milk has been subjected. Many of these have become obsolete and need no consideration.

For our purposes, we may consider only such processes as are in very general use at the present time, and which have met with the most approval among recent writers.

We may classify these under the following heads:

(1) Dilution with water, with the addition of sugar.

(2) Dilution with water, with addition of sugar and cream.

(3) Dilution with gruel, with or without the addition of sugar.

(4) Dilution and partial peptonization.

The modifications at the milk laboratories, so far as I am aware, bring to our aid no new principle, and for this reason have not met with the success that was anticipated by their promoters. While they have been able to furnish mixtures of nearly known composition, yet we now know, in the light of fuller knowledge upon the differences between human and cow's milk, and what is necessary for infant digestion, that the proper chemical proportions of the proteids are rarely attempted, and that they have thus far done little, if any better, than can be done at home by an intelligent mother or nurse. Those in charge of these laboratories have made the mistake of resting their theory of infant feeding on the older and incomplete analyses of human and cow's milk. As a result, the feeding of infants with milk put up at these laboratories has been disappointing. In fact, unless the laboratories are able to furnish us something more than playing the changes upon the original Biedert Cream Mixture, as improved by Meigs, they must soon give way to something better. The cost of maintaining expensive laboratories must, of necessity, make the food expensive; and unless we can assure ourselves and our patients that such food has special merit, we cannot conscientiously advocate its use.

Pasteurized mixtures of milk, cream, lime water, water and milk sugar, are to-day the most popular infant food with very many physicians. Some physicians still adhere to the practice of sterilizing milk for infants, especially in hot weather. While sterilized milk is a safe food, it does not nourish as it should, and is objectionable for that reason. I have elsewhere discussed this subject more at length, and will here present merely a summary of its defects:

(1) It melts the fat and destroys the emulsion.

(2) It dehydrates and partially decomposes the sugar.

(3) It coagulates the albumin and globulin, and alters the composition of the caseinogen.

(4) It rapidly destroys the para-nuclein and lecithin, and converts the organic phosphorus, which can nourish the tissues, into inorganic phosphates, which cannot nourish tissues and is lost in the feces.

(5) Children fed exclusively upon sterilized milk will sooner or later show signs of rachitis.

(6) It is unnecessary, as the temperature of 155° F., the pasteurizing temperature, is above the thermal death point of all pathogenic organisms likely to occur in milk. The one exception is the spores of the tubercle bacilli, which, according to some experiments, are not killed by boiling.

Condensed milk is sterilized milk condensed at a comparatively low temperature in a vacuum pan, and all the advantages and disadvantages of the latter appertain to it.

Home modification of cow's milk is, in many respects, the most satisfactory. As the result of considerable thought and experimenting, and after trying all the fads and fancies of infant dietetics brought to our attention in the past twenty years, I have crystallized a method that has given me great satisfaction in the past three or four years. The mother usually has more confidence in it, because she sees it made and knows what it is.

A method for home modification of cow's milk should present the following recommendations:

(1) It should not be too complicated for the average mother to accomplish in an ordinary kitchen.

(2) It should be economical, both in time and money.

(3) It should be capable of variation. The mother should be able, by very simple manipulation, to vary each constituent at the suggestion of the physician.

(4) The food, when prepared, should be palatable and prove itself by clinical trial to nourish the tissues, and not merely to lay on fat. The fact that a baby increases in weight does not necessarily mean that it is being properly nourished. It may be fat and suffer with rachitis.

The method I am about to describe meets more of these requirements than any other process with which I am acquainted.

The aim of the process is to prepare a food from cow's milk of good quality, which shall be as nearly like human milk as possible. To do this, it is necessary to preserve the natural milk emulsion, retaining all the fat, or about 3 to 3.5 per cent. of it, reduce the caseinogen to about 1 per cent., or a little less for very young infants, increase the soluble albumin and globulin from 0.5 per cent. to about 1.25 per cent.; increase the milk sugar from 4.5 per cent. to 6 per cent., render slightly alkaline at the time of feeding, and present the food to the infant as nearly sterile as possible.

Bottled milk of good quality, bottled in the country, is well creamed when it reaches the consumer, and contains about 4 per cent. of fat and about 3 per cent. of caseinogen.

Van Slyke (N. Y. State Agricultural Exp. Station, Bull. 68, New Series) says that the casein in cow's milk bears almost a constant ratio to the fat of two-thirds to one. This would make the casein (precipitated) 2.67 per cent. when the fat is 4 per cent. This precipitated casein is only a part of the caseinogen as it exists in the solution, which would make the contents of caseinogen very nearly 3 per cent. when the fat is 4 per cent. The albumin and globulin together are present to the extent of about 0.5 to 0.7 per cent., the sugar about 4.5 per cent., and the salts 0.68.

The skim milk, or the bottom milk, contains a little less than 1 per cent. of fat in the ordinary market milk. Chapin has recently stated that but one-tenth of the total fat remains in the bottom milk, a smaller quantity than I have usually found.

If, from a quart bottle of such milk, we siphon off from the bottom, two-thirds of the contents of the bottle, remove the caseinogen from this with rennet, and return the whey to the bottle and make up to the original volume with water, we reduce the ceseinogen to 1 per cent., while we do not disturb the other constituents. We do, however, slightly increase the soluble proteids by a cleavage of the caseinogen during the coagulation by rennet.

We may now add 1.5 per cent. of milk sugar, or approximately a heaping tablespoon to the quart of food, and about 0.5 per cent. of soluble albumin. The albumin may be added in the form of egg-white. This contains on the average 12 per cent. of proteids, consisting of albumin with a small amount of globulin.

The white of a medium-sized egg weighs about twenty-five grams, and contains therefore about three grams of albumin. When added to the bottle of milk, or thirty ounces, this will add approximately 0.4 per cent. of soluble proteid. This will bring this constituent up to about 1 to 1.2 per cent., or nearly that of human milk. It only remains to pasteurize the mixture, and add a little lime water at the time of feeding, to make the caseinogen more soluble, and to insure a slightly alkaline reaction.

The technic of this process will now be shown you by my friend, Dr. W. L. Chapman, who has had a great deal of experience with this food during the past summer.

The following printed directions are handed to the mother at the beginning of her experience in preparing the food:

DIRECTIONS FOR PREPARING INFANT FOOD FROM COW'S MILK.

"Siphon off from the bottom of a bottle of fresh milk of good quality *three-fourths* of its contents, leaving the cream and upper part of the milk undisturbed in the bottle. This may be easily done with a small glass siphon or rubber tubing, previously filled with water, to start the siphonage. Pinch one end of the rubber tube and hold it firmly, while the other is thrust through the cream and to the bottom of the bottle. Lower the outer end into the inner vessel of an ordinary *double boiler,* and release it, when the skim-milk will run out, provided the latter vessel is kept lower than the milk in the bottle. To the milk thus drawn off add a teaspoon and a half of a good Essence of Pepsin, and warm slowly in the double boiler to blood heat, and keep at that temperature until thoroughly curdled. Now heat, with constant stirring, until a thermometer dipped into the milk shows a temperature of 155° F., and remove from the fire. Strain, while hot, through clean wire strainer and dissolve in the whey a heaping tablespoon of sugar of milk and the white of one egg. When cold, pour the sweetened whey back into the milk bottle and mix thoroughly with the cream and top milk. Pasteurize the mixture in a Freeman's pasteurizer.

"NOTE.—Should this food prove too laxative, reduce the quantity of milk sugar. It is well to add, at the time of feeding, from one to two teaspoonfuls of lime water to each meal. As the child increases in age and strength the amount of bottom milk siphoned off may be diminished."

I have, at times, found it necessary to show the mother how to conduct the process, but only mothers below the average intelligence.

One great benefit of this process is its pliability, or the ease with which the constituents may be varied. If we wish to reduce caseinogen, we draw off more of the bottom milk. To increase it, draw off less. To decrease the fat, dip off a part of the cream, remembering that the whole amount of cream measures from ten to twelve tablespoonfuls. To increase the fat, add a little less than the full amount of whey, after removing the curd. To increase the soluble albumin, add more white of egg. The sugar may be varied at will, by adding more or less, as desired.

In conclusion, I would say that this food has given good clinical results in almost every case. The nutrition has been good, as shown by the growth and development of the children. Taking the eruption of the teeth, and the ability to walk, as guides in determining the development of the infant, it seems quite satisfactory. I have had an opportunity of comparing these signs of development in several families, in children fed at the breast and with this food, with the result that the children developed quite as early in the last case as in the first.

A CONSIDERATION OF THE RADICAL TREATMENT OF HEMORRHOIDS.

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In a consideration of the radical treatment of hemorrhoids it will not be amiss to preface our remarks by a brief consideration of some of the clinical and pathological phenomena which this common affection manifests. It is doubtful if there is a single pathological condition which so absolutely disregards age, sex, and environment as that of piles. No race, no class, no condition is exempt. Its literature is older than medicine. It finds recognition in scriptural lore: civilization has neither modified nor ameliorated it.

In so common an affection we must look for a common cause. This affection is one of the penalties man is paying for the upright position. The cause is an anatomical one.

The tendency for the ano-rectal veins to become varicosed is easily explained when we consider their dependent situation. They run in a longitudinal direction just beneath the mucous membrane for about 4″, then pass through slits in the muscular coat and pass up external to the bowel. Varneuil believes that in straining at stool these muscular slits contract and thus compress the veins.

Again, these veins are valveless, loosely imbedded in the surrounding cellular tissue; fecal masses entering the rectum must obstruct the circulation so that under normal circumstances the conditions for a frequent recurrence of congestion in the hemorrhoidal veins is very great.

Among the more prominent pathological conditions which contribute to the production of hemorrhoids may be mentioned pregnant uterus, diseases of uterus and adnexa, diseases of bladder and prostate, cirrhosis of liver, drastic cathartics and a habit of living which gives great fulness to the portal circulation.

Pathologically we recognize but one kind of hemorrhoids, a varicosed condition of the ano-rectal veins. Clinically we recognize two varieties, the internal and external hemorrhoid.

The external hemorrhoid is outside the sphincter and cannot be pushed within. The internal hemorrhoid is within the sphincter, and when protruding can be replaced and held within the sphincter. External hemorrhoids, when quiescent, present no symptoms. When inflamed, the pain is intense, especially at defecation. They do not bleed. The intense pain causes the patient to seek relief, and is the most prominent symptom of this variety.

In internal hemorrhoids the pain is not so pronounced a symptom unless they are irritated or ulcerated, then the pain is of a dull variety and not so intense as in external hemorrhoids.

The patient usually seeks relief because of protrusion and bleeding. Of these symptoms hemorrhage is the more important, frequently it is profuse and profound anemia is sometimes a sequence.

In the early stages the protruding masses go back of their own accord, later the patient is compelled to push them back; finally, they may become inflamed, strangulated, and gangrene and slough of the entire mass result.

In diagnosing hemorrhoids it is essential that an examination be made in every case. To the laity all symptoms referable to the rectum indicate piles, and many can bear witness to the grievous errors that have been made where treatment has been based upon the patient's own diagnosis.

Even the most careful history must not be solely depended upon—for a history of protrusion at stool alone may mean a polypus, a malignant growth or a prolapse of the gut itself.

A thorough and careful examination of every patient complaining of rectal trouble is the only means of arriving at a correct diagnosis.

This examination is best accomplished by placing the patient in Sims's position. The sphincter is well lubricated and divulsed by a rectal speculum. A good direct or reflected light will enable the operator to observe the condition of the rectum for several inches above the anus. The Sims's position has the advantage of presenting the rectal axis on a uniform level with the eye, hence more of its surface can be seen than in the dorsal position, when the observation must be made in a downward direction.

A great injustice is done a large number of patients by means of a palliative line of treatment. Many patients believe that in the use of salves, ointments, etc., a cure may confidently be expected. Those who recommend such palliative measures should plainly state to the patient that there is but one way to cure hemorrhoids, and that is by operative procedure. That all other means will merely palliate, not cure. That the radical cure of hemorrhoids is neither a dangerous operation, a long operation or one which need confine the patient to his bed for a long time. That the radical cure is the only complete cure, and that many years of suffering under palliative treatment can be saved the patient who is thus convinced.

Among the radical cures proposed for this affection I shall allude to a few of the most popular operative procedures, outlining their chief defects and describe in detail an operation, which, from my own observations, gives the most ideal results.

I mention the method of carbolic acid injection merely to condemn it. It has been used by some scientific men. It has been abandoned by the majority. It was introduced by itinerant quacks. It is being relegated to their sphere. It cannot legitimately be classed among sound operative procedures.

Mathews, in 1878, before the Kentucky State Medical Society, showed that these injections were painful and inefficient and that death might occur from peritonitis, embolism and pyemia. Allingham, after trying the injection plan, concluded that there was generally much pain, more inflammation than desirable, lengthy treatment, doubtful results, and no radical cure.

Kelsey, in 1885, reported 200 cases treated by injection. He has since abandoned this method because of "a succession of bad and troublesome cases." I believe it to be a sound surgical maxim that it is a dangerous procedure to inject carbolic acid into any of the tissues of the body. How apparent does this danger become when the injection is made into a venous tumor with no barriers to hinder its rapid entrance into the general venous chamber.

The most radical procedure for the removal of hemorrhoids is the operation devised by Whitehead of Manchester, England. This operation has found favor among many advanced surgeons and is the standard practice in Johns Hopkins Hospital. In all other operative procedures the individual pile is treated. In the Whitehead operation the complete ring of pile-bearing mucous membrane is excised. Briefly, the patient is secured in the lithotomy position. "By the use of scissors and dissecting forceps the mucous membrane is divided at its junction with the skin round the entire circumference of the bowel, every irregularity of the skin being carefully followed. The external and the commencement of the internal sphincters are then exposed by a rapid dissection, and the mucous membrane and attached hemorrhoids thus separated from the submucous bed on which they rested, are pulled bodily down, any undivided points of resistance being nipped across, and the hemorrhoids brought below the margin of the skin. The mucous membrane above the hemorrhoids is now divided transversely in successive stages and the free margin of the severed membrane above is attached, as soon as divided, to the free margin of the skin below by a suitable number of sutures" (*British Medical Journal,* 1887).

The advocates of this operation claim that it is not sufficient to remove merely the hemorrhoidal tumor, but we must remove the "pile-bearing area." Clinical facts disprove this assertion.

It will be at once apparent that this operation is difficult, tedious, bloody. It should be attempted only by surgeons of large experience. Among the operation for hemorrhoids, Whitehead's operation has its sphere. That sphere is limited. Where there is a general dilatation and varicosed condition of the rectal veins, Whitehead's operation is the only operation which will cure it.

In all other cases there are simpler, sounder, and safer methods of attaining more certain results. In the treatment of one phase of hemorrhoids, therefore, it is the operation of choice, in all others it is mere surgical pyrotechnics. The success of this operation depends upon absolute aseptic healing. Here then is a procedure which subjects the tissues to great exposure, much trauma, in a locality where asepsis is most difficult to attain, depending for its success upon an exceedingly doubtful issue.

In cases where aseptic healing is not attained the results following the formation of the cicatrix are most deplorable. In two cases in which I have observed the results following the Whitehead operation, both patients were suffering with incontinence. Upon examination of the parts there appeared a gaping anus, the sphincter presumably imprisoned in the scar tissue, with the resulting inability to control the feces.

A procedure which has met with no little favor is the use of the clamp and cautery. The essential features of this operation consists in seizing the hemorrhoid to be removed, applying a clamp to its base as a temporary hemostatic, cutting it off with scissors and cauterizing the stump. Allingham regards this procedure as more dangerous than the ligature because of secondary hemorrhage. Certain it is that frequently the operator resorts to the ligature when the cauterization proves ineffectual, that it is followed by much after-pain and that when the sloughing is more than desirable extensive scars may result, with subsequent contractions.

The ligature operation has probably found more favor with surgeons than any other. Its popularity is due to its simplicity and its efficiency. It consists in dissecting the hemorrhoidal tumor away from its attachments below to a certain extent and surrounding the pedicle, consisting of a bridge of mucous membrane above, with the vessel, with a silk ligature and cutting the tumor away. In the cases observed after this operation, there is much subsequent pain and there remains a raw, contused surface exposed to infection and inflammation. These more popular procedures and their chief objections are merely mentioned that a comparison may be fairly made with an operation which the writer has observed in some twenty-five cases and which has, without exception, proved efficient, safe and without any of the objections mentioned above. It consists in the separate excision of the hemorrhoidal tumors with approximation by suture of the incised mucous membrane.

The procedure in detail is as follows: The patient is prepared for operation in the usual manner, the bowels being well opened thirty-six hours before and an enema given twelve hours before operation. This method thoroughly cleans the bowels and leaves no residual feces in the rectum to be expelled during the operation.

The patient is placed in the Sims's or lithotomy position, as the operator prefers. The first step consists in dilating the sphincter until the anus is patulous. This is accomplished by lubricating both thumbs and inserting them with the dorsal surfaces together, the fingers resting upon the buttock as a support. The dilatation should be slow, gradual and thorough: never breaking or lacerating the sphincter, as is often done by use of a speculum. Upon the thoroughness and care with which this procedure is accomplished depends much of the patient's subsequent freedom from pain. The field is now irrigated with bichloride solution and the parts carefully inspected. It is well to begin with the piles on the lower wall that the others may not be obscured by blood.

The pile is seized with forceps and drawn away from the anus until its base is rendered tense. With a blunt-pointed scissors and a series of snips the operator severs the lower attachment of the pile, dissecting it up from its submucous attachment and carefully incising the mucous membrane above until it is attached by a small pedicle, in which are the vessels. The pedicle is ligated with fine catgut and the pile cut away. The operation is completed by suturing with catgut the incised edges of the mucous membrane in a longitudinal direction. A piece of iodoform gauze is inserted for pressure and drainage, and a pad of sterile gauze applied with a T bandage. On the third day the bowels are opened by a suitable aperient. Just before the bowels act it is well to inject into the rectum about six ounces of warm sweet oil. After this the bowels are moved every day. The patient sits up on the 10th day and is about on the 14th day.

In some twenty-five cases which the writer has observed this operation has proven uniformly satisfactory. It was followed by no complications and little if any after-pain: none that required an anodyne. This operation substitutes for the contused wounds produced by the ligature operation and the charred surfaces following the cautery a cleanly, incised cut, neatly adjusted by sutures. At the conclusion of the operation the integrity of the rectal wall is restored and its surface as complete and perfect as normal.

DISCUSSION.

A. J. C. Skene: I am unable, Mr. President, to add anything to the paper, in which the author includes all that he considers valuable and excludes all that is questionable in the whole subject. I have had no experience with the method commended, although I have seen a number of cases treated in a somewhat similar way, that is, by grasping the hemorrhoid with narrow forceps and cutting it off and then closing the mucous membrane or the wound with sutures without the use of the subcutaneous ligature on the vessel, as practiced by the author of the paper. I believe that is Dr. Wight's method. I have seen a number of cases operated on in that way, although I have not operated myself, and as far as I know they have always done fairly well.

Dr. J. P. Warbasse: The reader of the paper has certainly presented this subject in a most judicious manner. There are advantages and disadvantages connected with all of the old operations for this disease. The particular class of cases which his operation is applied to, represents the great majority of hemorrhoid cases; however, there are aggravated cases of piles to which the operation of Whitehead is particularly applicable.

I believe that we are all in sympathy with the remarks of the reader of the paper, with possibly the exception of his statement that every case of piles is a case for surgical interference. During the past summer I had opportunities for treating a large number of this sort of cases in men, many of whom were suffering from intestinal disturbances causing a diarrhea. Many of these men presented a very aggravated type of piles, which persisted so long as the diarrhea lasted, but when the diarrhea was controlled the amount of distention in these veins became surprisingly small, and after a few days of normal action of the bowels and local antiseptic astringent treatment, I have been surprised to see apparently quite aggravated cases of hemorrhoids become cured. It is the practice among many surgeons, who have no hesitancy in resorting to more radical measures, in the milder cases of degeneration of these hemorrhoidal vessels, to apply local treatment. The regulation of the bowels is the first, the most essential thing. Many mild cases of recently-developed hemorrhoids will yield to a suppository of gallic acid and iodoform used once or twice daily. However, this is only a small part of the cases of this kind. Most of them require such treatment as the reader of the paper has detailed to us, and certainly the operation which he has described fulfils the indications required for the relief of such a condition. An operation which I have been in the habit of practicing with perfect satisfaction has been much on the same plan, somewhat different, however, in its technic. The sphincter ani is first thoroughly dilated; and in the dilatation it is necessary to separate and stretch asunder the muscular fibers to such a degree that a partial paralysis of the muscle is brought about. A pile-mass is then grasped with the ring forceps, drawn down and circumscribed by an incision carried through the mucous membrane, rather close to the tumor, and continued around the muco-cutaneous junction, thus circumscribing the particular tumor grasped in the ring forceps. The mucous membrane is then dissected up until the dilated vessels are exposed and a needle, double-threaded with catgut, is passed through the base of the mass, eye first, in order to minimize the danger of hemorrhage, and the mass ligated in two sections. One ligature is carried to one side and one to the other, the ligature ends cut short and the tumor cut away. The mucous membrane is then brought down to the muco-cutaneous incision and there fastened with interrupted sutures of silk. The next mass or segment of the tumor is then treated in the same way. Thus the tumor is removed and the stump covered by mucosa-skin suture. The wound heals primarily, and the amount of scar is the minimum. My experience with catgut in a mucous membrane has been such as to make me feel that silk is the preferable suture material. The sutures are cut away at the end of seven or ten days. The operation I have frequently carried completely around the anus, so that practically a Whitehead's operation is done, excepting that it is done bloodlessly and in sections.

Walter B. Chase: I think it a common experience of many who have had much to do with hemorrhoids that there is a limited sphere of palliative treatment which brings excellent results. Sometimes it requires patience and in very many cases, where the veins are largely dilated and decided structural changes have taken place, they become permanently dilated and nothing short of active interference will suffice to overcome the difficulty. The provisions of the paper and the methods suggested by the gentleman reading it are certainly scientific, and I have no doubt the results are usually satisfactory; and so, also, with the method proposed by Dr. Warbasse. I am rather surprised, however, that the reader of the paper made no allusion to another well-known method of treatment—that by the galvano- or thermo-cautery. It was formerly my custom to operate somewhat in the way suggested by Dr. Campbell, but latterly, after having opportunity of witnessing the effect and the prompt recovery after the removal of hemorrhoids by the galvano- or thermo-cautery, I have come to feel that there is an advantage in that method; not perhaps to the exclusion of these methods already spoken of, but the facility with which the operation can be done, the short period of convalescence and the practical avoidance of the risks of sepsis, all contribute to make it as near as may be the ideal operation. Briefly, the method is somewhat like that of Dr. Campbell; in stretching the sphincter, then seizing the hemorrhoid with a clamp and burning it off with the galvano-cautery. Perhaps the ideal way after all is to stitch the opposing surfaces together with very fine catgut, but whether that is done or not, in my hands the results are exceedingly satisfactory. In cases where there are large hemorrhoids and several of them it is remarkable to note how quickly the patient will recover. In a week or ten days aggravated cases have been able to get up and in a period of two weeks to resume work. The facility of doing it, the quickness of it and the results, together with the fact that I have never seen hemorrhage or sepsis seems to me, in cases of this kind, really the preferable method of operating. As a rule the use of the ligature in hemorrhoids is often a source of great unnecessary pain and irritation, and serious infection has been known to follow. If care is exercised and the muco-cutaneous surface is not seared, pain is nearly always absent—a matter of no little moment.

Walter C. Wood: I think those of us who have given some attention to surgical matters are too prone to consider that piles are entirely a local condition. Yet there is a distinct relationship between varicose veins of the lower extremity, varicocele, hemorrhoids and certain dilatations of the heart. My attention was forcibly called to this connection by the examination of a large number of candidates for the Civil Service Commission of the city. The practical lesson that I draw from it is to make an especially careful examination of the whole venous system before promising a satisfactory result in any case of hemorrhoids. While I believe the hemorrhoids are often a purely local condition, yet I believe these cases, as a rule, do not take the anesthetic as well as other surgical cases, and that we do not understand the exact relation of cause and effect unless we realize its connection with the general venous system. I have done such an operation as Dr. Campbell advises and approve of it most heartily for a certain class of cases; however, I believe there are others where we cannot do without the old-fashioned Allingham ligature. I recently operated out of town in a case where if it had been in a hospital I would have done the Whitehead operation, but being some distance from medical assistance it was necessary to do an operation sure and safe even at the expense of doing an operation that was painful; consequently I did, with satisfaction, the old-fashioned ligature operation, which I think we cannot discard.

The operation spoken of by Professor Skene, connecting it with the name of Dr. Wight, which I think has not the recognition that it rightly deserves, has proved very satisfactory in my hands. Dr. Skene's own improvement on the clamp and cautery operation for hemorrhoids by the use of his electric clamp is an operation I have done a few times with very satisfactory results, and I regret that the expensive complicated apparatus required makes it impracticable for a large amount of hemorrhoidal work. It is an improvement on the ordinary clamp and cautery. I think Dr. Campbell's operation described to-night is an improvement on Wight's operation, but is applicable rather to a milder class of cases. I think that hemorrhoids should be considered often as a part of a general condition rather than a strictly local one, and internal medication should be used as an adjunct to surgical measures.

George McNaughton: I would like to speak in favor of the clamp and cautery. I have used this method a large number of times, and, like Dr. Chase, I have never known hemorrhage to follow. I think it is a reasonable method of treatment. The edges of the mucous membrane are seared and the vessel itself retracts beneath the mucous membrane. It is not necessary to put a suture in; as the muscle retracts, coaptation is made quite perfect. I should think this might apply also to the author's operation. Patients suffer less pain after clamp and cautery operation; really, in a few days they are comfortable and anxious to get out, and I have had no trouble following it in any way, shape or manner; indeed this has been an entirely satisfactory operation in all the cases I have used it. I believe that a proper clamp should be selected, one with a small surface and good leverage, this is important. As I stated before, the edges of the mucous membrane are seared and they are not liable to absorb anything; the muscle soon contracts and closes the mucous membrane quite perfectly and so far as I have seen, it is very satisfactory in its results.

F. J. Shoop: There is one further point in the use of the clamp and cautery. Those who have had a failure with the clamp and cautery, reporting hemorrhage from it, have used it too hot. If you use the Paquelin cautery not hotter than dull heat, hardly showing any color, you do not get any danger then; and if you do that you will get almost the same effect as you do from the Skene electric cautery.

Dr. Campbell: I have simply this to say, Mr. President, that I evidently made a wrong impression, as one of the gentleman understood that I said that every case of hemorrhoids was a subject for operation. I did not mean to convey that impression; I simply meant to say that given a hemorrhoidal condition it was impossible to cure that condition except by operative interference. The palliative measures, of course, will reduce an inflamed pile to a quiescent state, but the condition still remains in that quiescent state. I did not mean to say that every case was to be operated upon.

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ALCOHOLISM AND ITS TREATMENT.

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Read before the Brooklyn Society for Neurology, January, 25, 1900.

The general practitioner of medicine, who in his long experience as a physician, is called upon to treat a great variety of diseases without even having seen or treated a case of smallpox, typhus fever, cholera, or hydrophobia, will rarely have practised long before he will be called upon to treat the most sad and difficult cases of alcoholism. There is no disease so common and none so slow to be recognized—no ailment is more universal.

In large families you may hear it said, and sometime boastingly, that they have not known of a single case of phthisis, epilepsy, or cancer in their family. But there are few who have not some one of its members a victim to the excessive use of alcohol.

It is important to have a clear knowledge of the nature of this disease. Such knowledge is essential for the welfare of the patient, and as a guide to his family that they may take the necessary steps to have him properly cared for. Such knowledge is essential to the physician that he may know what to do for his patient, map out treatment to stay the disease, and, if possible, effect a permanent cure.

There are several causes for the unsuccessful termination of these cases and the failure of treatment. Ignorance is the most powerful—neither the victim nor his relatives, generally speaking, discerning a physically diseased condition, either in the drunken manifestations or in the previous deviations from health. The foolish and silly conduct is only regarded as a peculiar eccentricity by those who do not comprehend the disease. Another cause is family pride. They do not care to reveal inherent weakness; they look upon it as a disgrace—something to be hidden, as insanity or some specific taint.

Sir Thomas Watson defines disease as all deviations from the health standard. What intelligent and skilled observer of an intemperate life can have any doubt that, tried by this classic test, intemperance may be the outcome of a diseased condition? Is the inebriate a fool? Is he a wanton and wicked sinner? Is he but a headstrong and hardened criminal? Are all his outbreaks of intemperate drinking but the fruits of an evil and perverse disposition? Science answers "No" and plainly does common sense echo "No." Men and women of the highest culture, purest life, most exalted aims have become drunkards. The clearest minds, the finest intellects, and the most astute reasons have fallen a prey to alcoholism. The warmest hearts, kindest souls, the most unselfish dispositions have been turned into the coldest and most brutal of creatures that have fallen at the shrine of Bacchus. Not from the desire to be wicked, not from a determination to become drunken, not from an innate love of the intoxicant, but from the want of power to resist the overwhelming wave of a well-nigh irresistible impulse in them, which, especially when awakened to action on the contact of a narcotic with the nervous system, hurled them away, in spite of their vain efforts, into the abyss of excessive indulgence.

In women I have often witnessed both periodic and confirmed alcoholism, ending in death, follow the use of liquor taken for medicinal purposes, suggested by the mother or some wise old lady, for the relief of natural pain. The deceit, the mendacity, and the meanness of the female alcoholic were moral evils, but the functional disorder was the forerunner of the physical condition. This dangerous remedy set up in a system, which was fertile soil for narcotic influence, as truly a diseased state as in typhus fever or meningitis. I know of a case in my practice of a temperate and well-living man having received a head injury, being for a time dazed and stupid and for a longer time subject to headache. After a while he lapsed into outbreaks of drunkenness. Not being able to find any other cause, the writer considered this a case of traumatic alcoholism, the result of an injury. In this case, no hereditary taint, no hereditary predisposition, no vicious desire, no criminal propensity had given rise to alcoholic indulgence. In such a case as this there had been a departure from health in the form of some obscure condition of the nervous system which craved for temporary relief afforded by some stimulant or narcotic.

When first engaged actively in the treatment of alcoholism and engrossed with the thought of the nameless ailments it produced in the human body and the moral riot caused by its use, the lying, cunning, and debauchery of the alcoholic, overshadowed by their magnitude the effects of alcoholism on the material frame. Thus was I so blinded by the truth that I relied on moral and spiritual agencies in the attempted reformation of the drunkard. Repeated relapses and absolute failures in the apparently converted shook my confidence in the efficacy of moral means only. This process of disillusion was quickened in the course of my early medical career by having to perform frequent post-mortems in one of our local institutions with which I was then connected. In the case of persons who were known to have died drunkards, I almost always found a typical series of pathological appearances, the observation of which gradually opened my eyes to facts and dissipated the incredulity with which I had formerly received the statement that inebriety was in any case a disease. Now let us see what some of those appearances were:

Stomach.—Patches of congestion, thickening of the walls, sometimes thinning of the walls, sometimes ulcers in the stomach walls, extravasation of grumous blood and presence of undigested food.

Liver.—Enlarged, contracted or hardened.

Kidneys.—Small, fatty or hard.

Heart.—Fatty, flabby or a fatty degeneration of the muscular fiber.

Brain.—In delirium tremens, intense cerebral congestion, thickening and opacity of the membranes, hypertrophy of the connective tissue vessels atheromatous and tortuous.

I wish it understood now that I do not consider all drunkards as the subjects of disease. Some drink simply because they want to be disagreeable and ugly. He is gnarled and twisted, nobody is any good, nothing pleases him. Some drink through associations. They want to be in the "swim," to be "hail fellow," and regularly go home drunk. It is not at all improbable that, by frequent practises, they form a habit which they are unable to discontinue. One patient whom I attended regularly, a well-to-do brewer, has informed me that he does not drink because he loves the taste or has a craving for it, but on account of his associations and the business which he conducts.

Some drink on account of reverses or money losses. I know of many cases of death from alcoholism due to reverses in business and losses of large sums of money. For instance, in the panic known as "Black Friday" in 1874, to my personal knowledge four died within a month of their losses, falling dead when about to retire for the night. This stock gambling is to be deplored where men are under high nervous tension, where gain or loss of money is uncertain and where the market is so manipulated by millionaires as to crush their victims. It is not to be wondered at that the losers seek forgetfulness in the cup that induces sleep, when they see men already wealthy building colossal fortunes upon broken hearts, blasted hopes and ruined homes of men. In certain individuals drunkenness is a disease—something that cannot be resisted any more than a man with the ague can stop shivering by an effort of will power.

In the eyes of the public, drunkenness is a loss of self-control; the drunkard does not know when to cease. From a clinical standpoint, it is brain poisoning, with structural changes in the brain and its membranes. A drunken paroxysm is like a maniacal outbreak. Heredity plays an important part, for if a man be born of drunken parents he is very apt to be an inebriate. A drunken father, mother or grandfather may hand down to their posterity an alcoholic stain—an inheritance which neither time nor circumstances can eradicate. There are men and women of the highest culture, the most irreproachable character, of strong will, of profound thought, of true piety and exalted aims, who acknowledge that they could not toy with the intoxicating cup. It has been said of John B. Gough that after he ceased the use of intoxicants he never drank from the communion cup, fearing lest its contents would awaken in him a new desire for drink.

It has often been said, and used as an argument against me by patients, that if inebriety be a disease why should they be held responsible? My answer to this plea, which is unsound, is that with the means and opportunities he should use them to overcome his desire. He should regulate his mode of living so that he can become stronger, physically and mentally. He should be a giant instead of a pigmy—an oak, not a willow.

I have treated a large number of men and women who frequent our public institutions, many of them guilty of minor criminal acts. They associate with the low and disreputable; they pilfer in order to procure the means to buy drink. Notice their make-up: The swollen red nose, blotched face and congested eyes; their shuffling and unsteady gait; their clothing filthy and slovenly. They are lying and deceitful—the truth is not in them. Here we have a basis that is physical—a pathological condition. They commit crime to satiate a diseased craving.

There is another form of inebriety, and that is alcoholic poisoning of the mental and physical man by alcohol. Alcohol is an irritant and narcotic poison to the physical frame, and to the intelligence. Alcoholism may result as a diseased condition of the brain or its membranes, or some other organic change in the body. It may also be the direct influence of the poisonous materials acting on the cerebral nerve centers. In the first case, alcoholism is the cause of bodily and mental disease; in the second case, it is a disease in itself; and in both it has a physical origin. We cannot assume the work of the altruist or the philanthropist or the clergyman. We are to treat the disease, as we know and understand it, on advanced lines and improved methods.

Alcoholism being a disease, you may ask "To what class of diseases will you assign it?" My answer is: To none other than diseases of the nervous system, and its nearest all is insanity. The law calls it a vice, the clergyman denounces it from the pulpit as a sin against God, but both must yield slowly before modern intelligence, born of scientific research. Certainly I admit that there is a moral side to alcoholism. There is alcoholism, the disease; so also is drunkenness the sin and vice. Aristotle said drunkenness was voluntary madness. The first effects of alcohol are exciting and pleasurable. Elation, grandiloquence, rapid ideation, laughter or tears—all manifest swift cerebrations. Many of the symptoms are found in paresis and acute mania. The drunkard is uncertain, so is the paretic; he is slow and hesitating in his speech, so is the paretic; he may be excited, violent or dangerous, same as the man suffering from acute mania. In delirium tremens there is abnormal fear and insane terror, indicative of temporary madness, with hallucinations and delusions. In the different forms of insanity we have these self-same fears—this impending dread, with or without hallucinations, of something awful going to happen to the insane patient. In alcoholism the periods are brief—in insanity these periods extend for years. We have in alcoholic insanity a mental disease similar to that produced by other causes. I will enumerate some of the prevailing forms: Alcoholic kleptomania, insanity of delirium tremens, alcoholic pyromania, alcoholic epilepsy, general insanity from narcotics, alcoholic dementia, alcoholic homicidal mania, alcoholic suicidal mania, alcoholic delusions of sobriety. I will here remark this form, where every drunken man believes he alone is sober. What insane man have you ever known who has ever admitted that he was mentally unbalanced?

Treatment.—Much has been done in the way of treatment by temperance orators; by the State, in fines and imprisonments; also, by the medical world. We have all read of the eloquence of a Matthew and a Gough in its cause. These two famous orators electrified this country and Great Britain more than forty years ago, and saved thousands of men from the thraldom of intemperance. I call this kind of treatment suggestion or hypnotism, or hypnotic influence.

The State, by legislation, has done very little, if anything, for unfortunate alcoholics. As the disease of inebriety resembles in many particulars the disease of insanity, it is as much the duty of the philanthropist and statesman to establish homes for the treatment of the inebriate, as they have acknowledged it to be their duty to sustain asylums for the care of the insane. It has always been a source of amusement to me to hear judges in minor courts punish or "prescribe" for these poor wretches, "ten dollars or ten days," as a cure for this disease. As a rule, the alcoholic took the "ten days," but alas! to my knowledge, "ten dollars or ten days" never cured a single case of this disease. He went to jail and died there, or came out to return again in a short time. This treatment is a failure.

I would say that it is almost always useless to try to treat this class of cases in their homes. They should be sent away to hospitals that have suitable wards for their care and management. Many lives are lost by drugs and through violence in trying to restrain these patients at home. They will procure liquor, and while they are taking drink no cure can be effected. This statement applies also to cases of other forms of insanity or narcomania, such as morphin, chloral, and cocain habitués, or patients suffering from mania or melancholia. Trying to treat them in hotels and boarding-houses will not result in a cure, and in many instances they continue their habits. The termination of the insane case is suicide, if by no other way than jumping out of a tenth story window to be dashed to pieces on the pavement below.

Many drugs have been vaunted in the treatment of the alcoholic, and within the past few years one drug in particular has received world-wide fame for its efficiency, but I cannot say that I know of any specific for its treatment. Of the 200 cases in the alcoholic ward of St. Mary's Hospital during the last two years, of which we have not lost a single case from delirium tremens, I have not used any one particular drug. As the cases came in, I followed the old maxim of individualizing my patients and treating the disease, and to that I owe a great deal of my success. We have had cases in all the different stages of alcoholism, from the simple alcoholic to that of the alcoholic demented and paralytic. As I said before, not one of whom we lost. In some cases I stopped the use of alcohol on the first day of admission, in others I continued it for two or three days, but as a rule not longer. I believe in stopping the use of the intoxicant as soon as possible, but never so soon as to shock the patient or set up a delirium by its sudden cessation. The drugs that I use principally are strychnia in small doses for weak hearts—a laxative to relieve arterial congestion—and a sedative, like the bromide of soda at night to produce sleep. For those who are weak and have been drinking for a long time I prescribe liquid diet given hot every two hours, such as hot milk, broths, soups or gruel, through the night as well as in the daytime; also, baths occasionally and rest in bed. The gold cure, which is nothing more than chloride of gold in fractional doses, and hypodermics of strychnia and atropia I have used in some instances with good results; also, the extract of ipecac in small doses given in a glass of whisky three times a day until they had become so nauseated that they did not care for it any more. The saving of life in these cases I attribute to the administration of heart tonics and the nourishing diets, as already stated, administered faithfully every two hours. There are some drugs that I do not use that are administered to the patients before they are admittted to hospitals, viz.: chloral, hyoscyamine and hydrobromate of hyoscin. This latter, an alkaloid taken from an alkaloid, to my mind is unreliable and an unsafe drug; I have seen it used in several cases, the most of which ended in fatal results. Tincture of digitalis given in large doses has been attended with good results; personally, I have never used it in large doses and therefore cannot say as to its efficiency.

By some it is said that very little is accomplished in the way of treatment of alcoholism in women. To a certain extent that has always been my experience. Others make the sweeping assertion that women never reform, and when I speak of alcoholism I also include other narcotics. I know of some cases in my practice where women who had been periodic alcoholics, under treatment and under observation, improved so much that they have not lapsed into their former habits in periods from three to five years. I do not depend so much upon medication for them as I do on environments. I am consulted occasionally by men whose wives are given to intemperance. I first find out how this man is situated, what his business is, and how he manages and cares for his family. If he is given to intoxicants to a moderate degree I advise him to discontinue their use. If he has ever been accustomed to rural life, I advise him to move his family into the interior of the State and take up his abode on a farm away from the city and at least two or three miles from the nearest village. As a rule, her nearest neighbor will be some little distance, and no matter how far or near, she will generally find them of a high moral standard and temperate. I know of several instances where this advice has been followed and where the mother has reformed and become the joy and life of her home and a source of happiness to her family and friends.

There is no rank or station in life that woman occupies where she is exempt from this disease, although as a rule I have found less intemperance among the middle class than in the planes below and above. The cook, the laundress, the wife of the poor laboring man, women of wealth, refinement and education—all furnish recruits to the ranks of inebriety. And here, as in no other disease, can you see so plainly the duplicity, the mendacity, the cunning, the deceit, and all the ways and motions of the actress so fully exemplified.

303 Henry Street.

DISCUSSION.

Dr. C. F. Barber, in opening the discussion, said that it was a most complete and full one; the subject was a broad and wide one, yet we could pause and study some of its points with profit; for instance, the greatest factor as a cause in half the cases was hereditary tendency with diseases, injuries, and sometimes the drug habit as exciting factors. It is reported in France that epilepsy is common among absinthe drinkers. There are very few inebriates, comparatively speaking, among Hebrews, whether due to slighter abuse or immunity, he could not tell, and again psychical shock was another frequent cause. He agreed with Dr. Morton that habitual drinkers did not drink alcohol for its taste but for its effects, as shown by the variety of their drinks, such as cologne, bay rum, Worcestershire sauce, red pepper, and even Tabasco sauce.

Pathologically, he believed alcohol caused cessation of the amœboid movements of the white blood cells, and accounts for the bad reparative powers of these subjects, wounds usually suppurating, notwithstanding all treatment. As Dr. Morton had covered the pathological findings of the internal organs so thoroughly he could only speak as to those found at autopsy affecting the nervous system; where we found thickening of the membranes, minute hemorrhages, low grade of inflammation of the connective tissue, serous meningitis (wet brain) or edema of the brain, of which not much is known and is often the cause of death, with flattening of the convolutions, opaque patches and atheroma.

The symptoms of the conditions are manifest and well known to us all, so that he would pass on to the more important part, that of treatment, in which he heartily agrees with Dr. Morton that it should be institutional; the subjects of this malady need care, it is universal, affecting all states of society; my ideas regarding the treatment of this condition were formulated during my five years' service at the Fort Hamilton institution, where I had two hundred patients at a time under my care in all sorts of states and conditions of life and of alcoholism, and made as good a record of recovered cases as did Dr. Morton, only losing one case of delirium tremens in five years. My plan of treatment was to place the patient in a good room with an attendant, quickly and gradually reduce his alcohol, giving it in his broths and gruels, giving narcotics, such as chloral, hyoscyamus, and bromide, and even morphia, a quarter to half a grain, of course carefully watching the case, with cathartics when necessary, followed by tonics after the acute stage, stopping all association, and breaking habit after a three, six, or twelve months' stay, and yet after all this care they would be back in a week in as bad a condition as ever, with the excuse that they did not have sufficient will power to control themselves, and not from necessity or any other cause. Why they didn't remain cured he doesn't know, unless it is that the alcohol causes cell changes in the central nervous system, which lessens their resisting power. There is, of course, some lesion somewhere; but where? Perhaps it is syphilitic, which disease is very common among these subjects. They need absolute control by law for a sufficient length of time to change their manner of life, diet, and environment, for only isolation and control will keep them in proper condition, for we know that all the vaunted "cures" for this condition are total failures and money-making schemes.

Dr. Alleman, by invitation, said that alcohol was a factor in toxic amblyopia plus tobacco, not the alcohol alone; that it causes vessel changes in the eye, such as those found in subjects of chronic Bright's disease, due to alcohol, and that the changes were considered due to nutrition, not to retrobulbous neuritis, but in the nerve endings in the retina.

Dr. Brush said that the question of restraint, from a medical standpoint, came in conflict with its present legal view, which is based on the English system of jurisprudence that a man must have control of his own actions, and is responsible for them to the law, and therefore has no business to get drunk; if he does he is responsible for whatever he does in that condition. As to the condition known as "wet brain," he had had three cases which, while apparently doing well, died suddenly, and at the autopsy the dura mater was found covered with a mucilaginous material, the brain substance soft and wet, puncta invisible, and spoiled so rapidly that a satisfactory specimen was unobtainable on account of rapid post-mortem changes.

Dr. Alderton inquired whether this condition of "wet brain" and meningitis serosa were the same, the latter being a condition found after deaths due to middle-ear disease.

Dr. Browning replied that meningitis serosa, referred to by Dr. Alderton and the writers he quoted, was really internal hydrocephalus, while this condition of "wet brain" was practically external hydrocephalus.

Dr. Barber, in closing the discussion, said that Dr. Morton's and his own success in the treatment of these cases was due to their having sufficient control over them and in individualizing the treatment, especially the latter, which is highly important.

Dr. Morton said he emphasized the last words of Dr. Barber. He knew of institutions where the subjects were all given a sixth of a grain of amorphous hyoscyamus, a room with a bed on the floor, where they were left to flounder about and die, and of another where he had watched the treatment of five cases which were simply given a hypodermic injection of a fiftieth of a grain of hydrobromate of hyoscine; three died and at the autopsy nothing more was found than acute congestion, "wet brain," and ventricular effusion; such treatment was unscientific, bad, and in-human. Where he was consulted by men whose wives were addicted to alcohol, he always impressed upon them, for an example, to practise temperance themselves and remove to the country, where the environment and associations would not be tempting, but contrariwise sustaining by precept and example.

PROCEEDINGS OF SOCIETIES.

THE BROOKLYN SOCIETY FOR NEUROLOGY.

A regular meeting of the Society was held January 25, 1900.

The President, Dr. William Browning, in the Chair.

The President opened the proceedings with some remarks regarding the loss the Society had just sustained in the death of Dr. John C. Shaw, its first President, the father of neurology in this city, who occupied a distinguished position in the community and was to many of us an invaluable friend. He requested the Society to take some action in the matter.

Dr. L. J. Morton, rising to support a motion that a committee of three be appointed to frame a set of resolutions and compile a biography of Dr. Shaw for the Society, remarked that he had known Dr. Shaw since 1883, and subsequently during his term at Flatbush, that he was the most capable and best all round neurologist he knew, not showy or given to display before strangers or others, yet thorough. His knowledge was extensive and his experience great. At the Kings County Insane Asylum he not only knew all the twelve hundred or more patients, but their histories as well. His executive ability was of the first rank; he was prominent in the modern treatment of the insane, one of the first to leave off restraint and to give the patients outdoor farm work to do. He was always kind to his staff, solicitous of their comfort and welfare, paying them the best salaries he could obtain for them. He was founder of the county farm at St. Johnland, of the cottage system for housing patients in this country, an idea he borrowed from Belgium, in all of which works he was successful, and leaves as a monument to his integrity and worth.

The motion was carried unanimously and the following committee appointed: Drs. Caldwell, Onuf, and Morton, with the President ex officio.

Dr. Henry A. Alderton, exhibiting his "static goniometer," described it as follows:

My "static goniometer" consists in a base board of wood from each side of which, about the middle, arises a metallic framework carrying at its upper terminal an arrangement for supporting another board, which moves on this support as on a fulcrum; from one end of this upper board a cord passes to a pulley in the corresponding end of the lower board, by means of this cord traction may be exerted on this end of the upper board and an inclination given to it. At the other end of the lower board is a removable upright, graduated in degrees; at the corresponding end of the upper board is an indicator which points out the degree of inclination assumed by the upper board. From this same end of the upper board, on each side, runs an elastic cord to the corresponding side of the base board—to give uniformity to the action of the upper board. There is a block on the upright, at the level of the fulcrum, to support the upper board when at rest. About four inches in front of the fulcrum, on the upper surface of the upper board is a strip of wood for the stockinged feet to rest against to prevent slipping.

A person with normal powers of equilibrium should be able to maintain his erect position until the upper board reaches an inclination of 35° to 40° to the horizontal when facing toward the apex of the angle—*anterior inclination. Posterior inclination,* with the back turned toward the apex, varies from 20° to 30°; *lateral inclination,* with the side toward the apex, from 37° to 38°.

In patients with labyrinthine disease, giving rise to vertigo, etc., the angle measures 20° or less by anterior inclination, etc., and this is much decreased when the eyes are closed. In a case of Ménière's disease the patient loses control when an angle of only five degrees is reached.

Dr. Browning said he believed this was the only instrument so far devised for measuring the static sense except the so-called statigrams, and seemed well planned for accomplishing its purpose.

Dr. Combes thought the different results of examinations would vary normally with the vocations of the persons experimented with; for instance, whether a laboring man or a clerk, and therefore misleading on that account.

Dr. Alderton replied that he had tried normal persons of various builds and the results of such examinations had shown very slight differences on account of size.

Dr. Cardwell thought the question was not one of muscular power but distribution throughout the equilibrium apparatus, and the rapidity of its application suddenly, fast or slow, and that this latter point was an important one, as well as the question of amount.

Dr. Haynes remarked that besides the statigrams we also measured equilibrium by having the patient stand first on one foot and then on the other, and thought by adding this method to Dr. Alderton's apparatus it would attain a greater refinement.

Dr. Alderton, in closing, said that all motions, such as walking, turning fast or slow, were tests, showing the differences from a normal condition to a disturbed one, and that he had devised his instrument so as to have some standard by which we could say how much.

On motion a vote of thanks was tendered Dr. Alderton for his presentation.

Dr. L. J. Morton then read a paper on "Alcoholism and Its Treatment," which was discussed by Drs. Barber, Alleman, Alderton, Brush, and Browning.

W. H. Haynes,
Secretary.

THE BROOKLYN SOCIETY FOR NEUROLOGY.

A regular meeting of the Society was held February 22nd.

The President, Dr. William Browning, in the Chair.

Dr. L. A. W. Alleman read a paper on "Recurrent Oculomotor Paralysis," which was discussed by Drs. Onuf, Haynes, Brush, and Morton.

Dr. B. Onuf next gave a demonstration by means of charts of "The Arrangement and Function of the Cell Groups in the Sacral Region of the Spinal Cord."

Dr. Barber asked whether the cords of the male and female were the same. Dr. Onuf did not remember; thought there was no difference. The cord he examined was that of a female.

He first found the cells and then explained their function, assisted by electrical experimentation. Dr. Browning asked was it not that the nerves coming from certain spinal centers were known, as was also the action of these nerves, and therefore we could explain the function of the cells situated at the origin of the roots of these nerves by this reasoning, which Dr. Onuf agreed was the proper interpretation.

The society then went into executive session.

The Committee on Resolutions of Sympathy and Biography of Dr. John C. Shaw made a preliminary report stating that they regarded a note of sympathy preferable to formal resolutions, and had prepared the following letter for transmission to Dr. Shaw's widow:

"It is the unanimous desire of the members of the Brooklyn Society for Neurology to express to you their heartfelt sympathy in the irreparable loss which you have recently sustained by the death of Dr. John C. Shaw. The loss is ours as well, and to us likewise irreparable. Dr. Shaw was unsurpassed as a worker in the field of neurology. Not only was he an indefatigable worker in this, his chosen field, but by example as well as precept he stimulated many others to follow him in this difficult department of medical science. Dr. Shaw was so intimately associated with the Society for Neurology during his life that the society wishes to perpetuate his memory by compiling a biographical sketch of his very active life for which they desire your endorsement.

(Signed) John C. Cardwell,
B. Onuf,
L. J. Morton.
Committee.

W. H. Haynes, Secretary.

AMERICAN MEDICAL ASSOCIATION.

At the next annual meeting, to be held at Atlantic City, New Jersey, June 5-8, the Section in Diseases of Children has arranged a very attractive program. There will be sessions devoted to the following subjects: School Children; Contagious Diseases; Feeble-Minded Children and Nervous Diseases; Diseases of the Blood and Circulation; and Infant Feeding and Diseases of the Intestinal Tract.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, Tuesday, March 20th, 1900, Held in Apollo Hall.

The Vice-President, Dr. H. A. Fairbairn, in the Chair.

There were about 75 members present.
The minutes of the previous meeting were read and approved.

REPORT OF COUNCIL ON MEMBERSHIP.

The Council reported favorably on the following applicants:
J. W. Parrish, P. & S., N. Y., 1887.
John W. Pierce, L. I. C. H., 1894.
R. G. Manecke, Univ. State N. Y., 1893.
C. F. Ferdon, Univ. Baltimore, 1897.
C. J. Pflug, N. Y. Univ., 1895.
V. E. Judson, N. Y. Univ., 1890.
J. H. Gallagher, L. I. C. H., 1898.
W. C. Hager, L. I. C. H., 1896.
G. J. Tieck, L. I. C. H., 1896.
P. M. Schaffner, P. & S., N. Y., 1896.
W. J. Cullen, L. I. C. H., 1892.

APPLICATIONS FOR MEMBERSHIP.

The Secretary announced the following:

Robert M. Langdon, 757 Union street, L. I. C. H., 1898. Nominated by W. J. McAverny. Endorsed by E. M. DeCastro.

Denis W. Bury, 262 Putnam avenue, Yale, 1884. Nominated by J. P. Warbasse. Endorsed by H. P. de Forest.

Michael Schetta, 65 Front street, Naples, 1892. Nominated by George Ryerson Fowler. Endorsed by R. J. Morrison.

Frank C. Skinner, 104 Arlington avenue, Med. Chir., Phil., 1894. Nominated by Joseph H. Hunt. Endorsed by D. Myerle.

George B. Fielding, 182 8th avenue, L. I. C. H., 1899. Nominated by F. S. Kennedy. Endorsed by J. H. Hunt.

Henry F. Eichacker, 774 Bushwick avenue. Nominated by F. S. Kennedy. Endorsed by J. H. Hunt.

ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council were declared elected to membership:

A. S. Erdmann, L. I. C. H., 1897.
A. P. Northridge, L. I. C. H., 1898.
W. S. Johnson, L. I. C. H., 1899.
W. J. Brinkerhoff, L. I. C. H., 1892.
W. M. McAlpin, Med. Chi. Balt., 1886.
H. C. Keenan, P. & S., N. Y., 1895.
A. S. Talmadge, L. I. C. H., 1881.
C. F. Hermann, L. I. C. H., 1898.
Martha J. Peebles, Woman's Med. Col., N. Y., 1897.
Jennie S. Edwards, Woman's Med. Col., N. Y., 1897.
John Horni, P. & S., N. Y., 1896.
V. J. Klein, N. Y. Univ., 1887.
F. B. Otis, P. & S., N. Y., 1896.
E. Edman, N. Y. Univ., 1889.
G. F. Leyh, Jr., N. Y. Univ., 1890.
J. C. Nielson, L. I. C. H., 1898.
R. C. Williams, Trinity Col., Toronto, 18
Hugh E. Rogers, L. I. C. H., 1898.
E. J. Kenney, L. I. C. H., 1890.
J. Koepke, Bell., N. Y., 1890.
F. S. Senior, L. I. C. H., 1892.
A. M. Van Sickle, P. & S., 1896.
George J. Mahr, N. Y. Univ., 1895.
M. J. Malament, L. I. C. H., 1898.
F. C. Paffard, P. & S., N. Y., 1896.
H. Russell, L. I. C. H., 1896.
F. R. Baker, P. & S., 1889.
F. E. Carpenter, L. I. C. H., 1883.
Vincent Barber, Queen's, Can., 1897.
J. J. Babbington, L. I. C. H., 1894.
George H. Davis, L. I. C. H., 1895.
J. P. Glynn, P. & S., N. Y., 1894.
A. C. Howe, N. Y. Univ., 1893.
R. H. Herkimer, L. I. C. H., 1892.
K. F. Junor, N. Y. Univ., 1886.
Alex. Koch, Heidleberg, 1886.
T. A. Jenkins, Bell., N. Y., 1897.

E. F. Luhrsen, L. I. C. H., 1899.
Wm. MacNamie, N. Y. Univ., 1892.
Chas. A. Phillips, L. I. C. H., 1896.
N. P. Rathburn, L. I. C. H., 1896.
W. J. Wellington, L. I. C. H., 1896.
J. H. Hull, L. I. C. H., 1890.
J. C. Barnhart, L. I. C. H., 1886.

SCIENTIFIC BUSINESS.

I. "Pneumonia," by F. M. Clayland, M.D.

II. "Treatment of Pneumonia," by Herbert F. Williams, M.D.

III. "A Form of the Serum Treatment of Pneumonia," by Carl E. Elfstrom, M.D.

Discussion by Drs. de Forest, Henry, H. F. Williams, Cohen, Millington, Walsh, Royce, Hoople, and J. A. Cochran.

UNFINISHED BUSINESS.

Report of Council.

The Council reported that the matter of the Homeopathic Hospital had been referred to the Committee on Legislation. The Secretary stated that the Brooklyn Surgical Society had assigned Dr. James P. Warbasse as Associate Editor of the BROOKLYN MEDICAL JOURNAL.

NEW BUSINESS.

A communication from the Second District Dental Society of the State of New York, enclosing a circular in which the names of various members of the County Society were used to further the ends of advertising dental offices.

On motion this communication was referred to the Board of Censors.

A communication was received from the International Congress of Electrologie and Radiologie of France to be held in connection with the Paris Exposition of 1900, inviting this society to send delegates.

Dr. McNaughton moved: That if any member of the society desires to attend this Congress as a delegate he be appointed by the President with the understanding that he pay his own expenses. Seconded and carried.

On motion adjourned.

R. J. MORRISON,
Associate Secretary.

BROOKLYN SURGICAL SOCIETY.

Regular Meeting, December 7th, 1899.

The President, Dr. Walter C. Wood, in the Chair.

SUTURE OF THE MUSCULO-SPINAL NERVE FOR INJURY OCCURRING IN CONNECTION WITH FRACTURE OF THE HUMERUS.

Dr. George R. Fowler presented, through Dr. Pierson, the following case:

L. E., æt. 22, suffered a fracture of the left humerus about 4 inches above the elbow. Five weeks later, when the splints were removed, the hand was stiff, and it was not until two months later that he realized that paralysis existed. He was treated by electricity until he applied at Dr. Fowler's service at the New York Polyclinic, where he presented a typical wrist drop. The divided musculo-spiral nerve was identified and sutured by the Brun's method with kangaroo-tendon. The club-shaped upper end was found with considerable difficulty. The arm was put up in strong flexion to avoid tension upon the sutured nerve-ends. Prompt healing followed. The operation has been of too recent date to expect evidences of restoration of function at this time.

CLAW-HAND DEFORMITY FOLLOWING INJURY TO THE ULNAR NERVE. NERVE-SUTURE.

Dr. George R. Fowler also had presented this case:

This patient, a child of five and a half years, was brought to the New York Polyclinic with the following history: On August 3d preceding he fell upon a piece of broken glass, sustaining an incised wound 3½ inches long on the anterior surface of the left forearm about two inches above the wrist, and to the ulnar side. The wound was sutured at an hospital clinic, and he was sent home at the end of three weeks. Upon examination, the hand presented the typical bird's-claw attitude from paralysis of the ulnar distribution to the interossei and lumbricales muscles, the extensor communis digitorum muscle extending the first phalanges of the fingers, the other two rows of phalanges being flexed by the common flexor muscles of the fingers, the interossei and lumbricales being no longer able to flex the first row of phalanges or to extend the two other rows. This condition was more marked in the two inner fingers than in the three outer. Finally, the diagnosis of injury to the ulnar nerve was completed by the interference with the movements of the thumbs, adduction of the latter being impossible, and the action of the inner head of the flexor brevis pollicis being likewise interfered with.

The cicatricial tissue at the site of the injury was dissected out and search made for the nerve. The upper end was identified by its bulbous extremity and the lower portion by its anatomical relations. These were freed from the adjacent scar tissue and the ends split and sutured by the Bruns method. Kangaroo-tendon was used. The parts were dressed with the hand in strong flexion in order to prevent dragging upon the nerve. The parts healed kindly, the subsequent treatment consisting of electricity and massage. At the present time (four months later) the claw-hand attitude is less marked, and there is commencement of restoration of the thumb movements.

ECHINOCOCCUS CYST OF THE LIVER.

Dr. Walter C. Wood presented for Dr. G. R. Fowler the following case:

F. M., admitted to hospital Aug. 21, 1899. For some months the patient had noticed a swelling on the right side just below the border of the ribs. This steadily increased in size. The tumor was dull on percussion, tense and elastic to the feel, and not movable. There was a sense of discomfort and some pain in the back. No other symptoms were present. The following operation was done: A five-inch right rectus laparotomy, beginning at the free border of the ribs, exposed the cyst. The tension of the cyst was relieved by an exploring needle. The cyst was then sewed with silk to the margin of the incision. Twenty-four hours later the sac was incised and a great part of its lining removed. It presented the characteristic contents of an echinococcus cyst. The resulting cavity gradually closed.

STAB WOUND OF THE NECK FOLLOWED BY PARALYSIS OF THE ARM. SUTURE OF THE 5TH, 6TH AND 7TH CERVICAL NERVES.

Dr. G. R. Fowler reported the case of J. W., male, age 42, admitted to the Brooklyn Hospital July 5th, 1899, with history of stab wound on the left side of the neck inflicted three months previously. Immediately following the injury all movements of the upper extremity were abolished, save slight movements of the fingers through the ulnar distribution to the interossei and two inner lumbricales. The wound was sutured and healed per primam. Three months afterwards he came under Dr. Fowler's care, at which time there had been no improvement in the paralysis. There was also paresthesia referred to the thumb, together with diminished and delayed sensation over the greater portion of the upper extremity. About a week before coming under observation the domestic application of a mustard plaster to the deltoid region resulted, owing to the absence of sensation in the area of cutaneous distribution of the circumflex, in an ulceration of the skin at this point. This delayed operation.

On July 6th the following operation was performed: An incision five inches long was made along the outer border of the sterno-cleido-mastoid muscle. The muscle, together with the important vessels and pneumogastric nerve, was retracted strongly to the front, and the wound deepened until the outer border of the scalenus anticus was reached. Following this downward the outer, posterior, and inner cords of the brachial plexus were identified in succession and traced in an upward direction. The outer and posterior cords terminated in a mass of cicatricial tissue lying upon the scalenus medius. The inner cord was traced to the anterior branches of the eighth cervical and first dorsal, and, together with the latter, was found intact. Dissecting away the scar tissue, the bulbous enlargements which marked the site of the upper cut cords of the anterior branches of the fifth, sixth and seventh cervical nerves were isolated. The lower cut ends, two in number, representing the outer and posterior cords of the brachial plexus, were also identified after being isolated from the cicatricial tissue. The outer cord had been divided at the point where it is made up by the fifth and sixth nerves, this circumstance accounting for the presence of an extra proximal cut end at this point, the two slips passing to make up the long thoracic nerve from the fifth and sixth cervical escaping injury. The seventh cervical had been divided *inside* of the point where the slip from this nerve passes to the long thoracic. The upper and lower cut ends having been identified and cleared of cicatricial tissue, the stump representing the point of junction of the fifth and sixth nerves to form the posterior cord of the brachial plexus was split for about an half-inch. The proximal cut end of the stump of the seventh nerve was split in like manner, the longitudinal split in the case of this being carried well beyond the bulb-shaped end of the stump. The bulbs of the stumps of the fifth and sixth nerves were cut away and the remaining portions trimmed to a wedge-shape. The method of approximation was as follows: The proximal and distal split ends of the seventh nerve were brought together in such a manner as to bring into close apposition the bottoms of the clefts, where they were sutured by a suture of kangaroo tendon. The remainder of the split portions were then sutured so as to form a cross after the method of Bruns. The stumps of the fifth and sixth nerves, after being trimmed to a wedge-shape, were then placed in the cleft of the split outer cord, where they were also secured by kangaroo tendon. In order to effect the approximation of the divided nerves it became necessary to relax the parts by elevating the arm and placing it back of the head, in which position it was held by a plaster-of-Paris bandage placed over the dressings.

Improvement in the movements of the arm as well as in the sensory symptoms was decided at the end of three months, and has progressively advanced ever since.

The treatment since leaving the hospital has been the application of, first the galvanic current to the paralyzed muscles, to which they responded more promptly than to the faradic (reaction of degeneration), and finally the application of faradism.

SUTURE OF THE MUSCULO-SPIRAL NERVE FOR INJURY OCCURRING IN COMPOUND DIASTASIS OF THE LOWER EPIPHYSIS OF THE HUMERUS.

Dr. G. R. Fowler reported the case of S. V., aged 11, who was admitted into the Brooklyn Hospital suffering from a musculo-spiral paralysis. A compound diastasis of the lower epiphysis of the humerus had taken place on March 19th preceding, which had been reduced, and which had completely healed.

On April 28th the cicatricial tissue at the site of the old injury was dissected away and the divided ends of the nerve identified. The bulbous upper end was split well up into what appeared healthy nerve tissue, the lower end trimmed wedge-shaped and inserted into the separated cleft, and then sutured with kangaroo tendon. Prompt healing followed. In three months restoration of function commenced, and in six months this was practically completed.

SUTURE OF THE ULNAR NERVE FOLLOWING INJURY AT THE WRIST.

Dr. G. R. Fowler reported the case of a child of 4 years, admitted to the Brooklyn Hospital on September 28, 1899, with a history of having fallen upon a piece of broken glass and sustained an irregularly shaped and transversely placed wound upon the anterior aspect of the right wrist. The skin wound had been closed and had united.

The patient presented the characteristic loss of movements of the thumb, which depend upon the action of the adductor-pollicis and inner head of the flexor brevis pollicis muscles. Owing to the youth of the patient it was difficult to estimate the exact amount of voluntary motion of the fingers, but, by carefully watching the child, it was apparent that the little and ring fingers were incapable of performing the movements of flexion, and a diagnosis of division of the ulnar nerve and of the flexor tendons of the two inner fingers was made. The diagnosis of ulnar nerve injury was further supported by the existence of anesthesia of the skin of the particular surface of the little finger and the adjoining half of the ring finger. The claw-hand attitude was not well marked, being limited to the two outer, or index and middle fingers.

Four days later a three-inch incision was made upon the ulnar side of the forearm and wrist in the course of the nerve, its center resting upon the scar of the original wound. After considerable search the proximal cut extremity of the ulnar nerve was found united to the cut lower ends of two of the flexor tendons, while the distal cut end of the nerve was found turned forward and united to the cicatrix in the skin.

The nerve ends were isolated and sutured after the method of Bruns, kangaroo tendon being employed. The divided superficial and deep flexor tendons of the ring and little fingers were also identified and sutured with kangaroo tendon. The hand was put up with flexion at the wrist and fingers to take off, as much as possible, the tension upon the sutures.

While the integrity of the tendinous structures has been assured, it is still too early to judge of the effect of the operation upon the ulnar nerve.

DISLOCATION OF THE HUMERUS; RUPTURE OF AXILLARY VEIN AND CIRCUMFLEX ARTERY IN EFFORTS TO REPLACE; SUBSEQUENT AMPUTATION OF HAND FOR GANGRENE.

Dr. L. S. Pilcher presented a man, aged fifty-four years, who through a fall from his bicycle sustained a dislocation of the head of the humerus under the coracoid process. Not being very sensitive to pain he neglected it, hoping that it would get better spontaneously. After some weeks, however, the disability not having spontaneously disappeared, but the lameness, the pain and soreness having become more aggravated, he applied for surgical relief. The exact time which had elapsed since the injury is uncertain, owing to the peculiar mental condition of the patient. He says about a month, but from the conditions which were developed at the time of operative interference it is certain that a longer time than that must have elapsed. He consulted Dr. Alexander Ross Matheson, who detected the condition and, supposing from the history that was given to him that it was a comparatively recent injury, attempted reduction. The attempt being unsuccessful, he at once brought him to the Methodist Episcopal Hospital. Here he was placed under ether and a renewed attempt at reduction was made by Dr. Pilcher. This consisted first in the application of the Kocher method, and, that being unsuccessful, in extension and counter extension, the arm being extended and elevated while pressure was made over the head of the bone with the fingers. No unusually forcible effort was made in this case; nothing more than the moderate force of the assistants in lifting and pulling with their naked hands and the pressure of a hand upon the head of the bone, endeavoring to force it into its place. These efforts did not change its position to any material extent. While reflecting upon the evident failure of these repeated attempts, the presence of a rapidly enlarging soft tumor in the axilla became apparent, and what was to be done was a question no longer of discussion. An axillary vessel had evidently been ruptured in the manipulation. Immediately, the parts having been cleansed, the axilla was opened up by an incision along the border of the great pectoral muscle and upon the retraction of the soft parts and the exposure of the vessels a rupture of the axillary vein was found to be present. This having been ligated, continued bleeding showed that there were yet other vessels which had been torn, deeper in the cavity in which the dislocated head of the bone lay. An attempt was made now before going any further to replace the head of the bone into the gland cavity. While, notwithstanding the full exposure of the dislocated head, these manipulations were ineffectual to change the condition of affairs, in the midst of further effort to lift it up into the glenoid cavity, a very profuse and violent hemorrhage took place; apparently a large artery had been opened. A clamp was at once put upon the axillary artery, which was reached by thrusting the clamp into the depths of the wound; the wound was then enlarged until the axillary artery was brought fully into view, and a ligature was passed around the axillary artery above the point where it was clasped by the clamp and was tied. Upon removal of the clamp from the now flaccid portion of the artery below the ligature it was found that the main trunk of the artery itself had not been wounded, but that the circumflex artery had been torn off just at its origin from the main trunk. The stump of the circumflex artery at this point was, however, long enough to hold a ligature, and after placing this ligature on the stump the ligature was removed from the main trunk of the axillary and the attempt to restore the head of the bone to its place was proceeded with. Despite the most intelligent and persistent attempts to bring the bone up into the glenoid cavity it was still so firmly and absolutely held by dense attachments to the lower margin of the glenoid that it was impossible to unloosen it from the point of attack which the lower incision afforded, so another incision was now made over the acromion process downward, splitting the deltoid and the capsule overlying the glenoid fossa, which was found to be very greatly thickened by chronic inflammatory exudate, but the glenoid cavity itself was empty and was in a fairly healthy condition. Having the head of the bone exposed from below and the glenoid cavity from above, still it was impossible to put the head of the humerus back into its place, until considerable further dissection and the systematic division of a very dense mass of fibrous tisue of new formation, which joined the edges of the humeral tuberosities to the lower edge of the glenoid cavity. When the head of the humerus had been thus finally liberated it was easily lifted up to its place in the glenoid cavity, where it remained and where it is at the present time. The usual dressings were applied and the future course of the circulation in the branches of the axillary artery were watched with great solicitude. It was apparent at once that there was no circulation in the fingers. It was hoped that there might be a return of the blood-current to the vessels of the hand, but day after day passed and no return of circulation in the vessels of the hand manifested itself; it fell into dry gangrene, and at the end of the twentieth day the hand was amputated at the middle of the forearm.

Now, as far as the condition of the wound healing is concerned, there has been no trouble from the synovial sac of the humeroscapular articulation; however, there has persisted a leakage of the synovia from the lower angle of the anterior wound, and occasionally a few drops exude from the lower angle of the shoulder wound. Note: This sinus finally closed about two weeks after the presentation of the patient. Although there has been an attempt to improve the condition of the deltoid muscle by faridization and by massage, the patient cannot raise his elbow much from his side, except as he raises his scapula.

Dr. Pilcher said that he presented this case more particularly in consequence of the great interest which attaches to such an accident. The number of cases which are on record are still comparatively few, and the mortality following this accident in these cases has been very great.

STAB WOUND OF THE AXILLARY ARTERY.

Dr. Charles H. Terry presented a man who had been brought to St. Mary's Hospital June 2, 1898, with a stab wound in the shoulder. The knife passed through the deltoid just above the insertion of the pectoralis major muscle. When the patient reached the hospital he was very weak from loss of blood. Firm pressure had been made over the wound to arrest hemorrhage; and the arm was much swollen, and the tissues infiltrated with blood. When pressure was removed from the wound, blood flowed out in a stream of alarming size, and it was a wonder that the man had not bled to death before the arrival of the ambulance surgeon. Ligation of the axillary artery seemed to be the only means of arresting the hemorrhage, which was done. The bleeding entirely ceased, and the wound in axilla was closed. According to the hospital records it was four days after this operation before the radial pulse could be detected, but it gradually increased in force from day to day, and now he has a good radial pulse. He remained in the hospital three weeks. The speaker had not seen him before since the time he left the hospital. As could be observed he had perfect use of the arm, and at the present time does not seem to suffer any inconvenience either from the wound or from the ligation of the artery.

BROOKLYN PEDIATRIC SOCIETY.

The sixth regular meeting of the Brooklyn Pediatric Society was held at Apollo Hall, 102 Court Street, on Friday evening, March 16th, 1900, with the president, Dr. Read, in the chair. The scientific program for the evening consisted of a paper on the "Iodoform Treatment of Enlarged Cervical Glands," read by Dr. H. C. McLean. This was followed by a discussion opened by Dr. John W. Parrish, who was followed by Doctors Edson, Bell, Ingram, Shipley, A. P. Northridge, Read, and W. A. Northridge. Dr. McLean then closed the discussion.

All interested are invited to attend the meetings of this society.

Wm. A. Northridge,
Secretary.

HISTORICAL DEPARTMENT.

JULIUS ERNEST SCHROEDER, M.D.

Dr. Schroeder was born in New York City, March 30, 1852, the son of John Ernest and Henriette Schroeder, née Judenfeind, both of Germany. His early education was received in the public schools of Brooklyn and Paine's Business College. During the cholera in this city in 1866 he entered the drug business with H. A. Cammus, the store being in the Twelfth Ward—that part of the city where the epidemic began, and where the death-rate was the largest. He afterwards conducted a drugstore at Myrtle and Tompkins avenues for a number of years, beginning the study of medicine in 1879 under the preceptorship of H. L. D. Woodruff, M.D., and matriculated with the University of the City of New York, graduating from the Long Island College Hospital in the class of 1882. A few years followed in the drug business, and in 1884 he began the practice of medicine in this city and continued until his death, January 12, 1900.

He was a member of the Medical Society County of Kings from 1886-1890, and the New York Physicians' Mutual Aid Association. His connection with non-medical societies was as follows: Nassau Lodge, No. 536, F. A. M.; Prospect Heights Council, No. 1521, R. A.; Brooklyn Lodge, No. 159, K. of P., of which he was a Past Chancellor, and Court Mayflower, No. 60, A. O. F.

He was married on March 7, 1874, to Mary Hall, who died in 1880; and on December 17, 1890, to Lizzie Hartung. Two children were the result of this union—Walter Edgar and Gerald Herbert Schroeder.

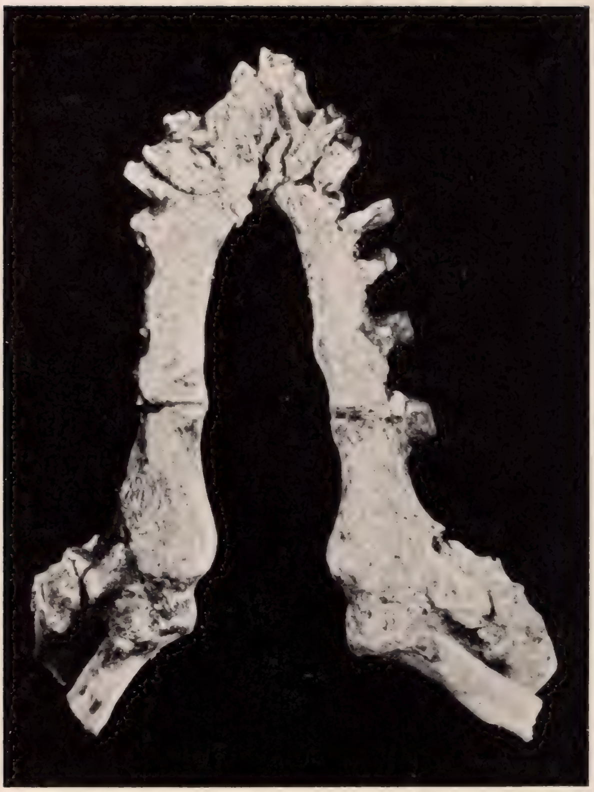
By request, the Masonic funeral service was delivered by his brother, Wor. William Schroeder, M.D., of Nassau Lodge, No. 536.

EUGENE A. GROUX, M.D.

As physicians we are interested not alone in disease and accidents, but in any abnormal condition of the human body, be that an arrest of development or otherwise. Dr. Groux was born in Hamburg in the year 1833, and died in Brooklyn, E. D., Oct. 15, 1878. In his youth he was engaged in mercantile business, but on account of an abnormal fissure of the sternum he exhibited himself in almost all of the European universities. The interest manifested by eminent men of our profession induced him to study medicine. He matriculated at the University of Göttingen, from which institution he received the degree of M.D. in 1863. A few years as assistant physician at the hospital in Gothenburg, Sweden, followed; a year as physician on board of a steamer plying between Havre and New York, and in 1866 came to Brooklyn and commenced the practice of medicine. He was surgeon of the Twenty-eighth Regiment, N. G., S. of N. Y., and visiting physician to St. Catharine's Hospital, a member of the New York Physicians' Mutual Aid Association, and of the Medical Society County of Kings, from 1874-78.

Charles Jewett, M.D., at a meeting of the Brooklyn Anatomical and Surgical Club, held on November 18th, 1878, made the following report,—Fissura Sterni:

"This sternum from the body of the late Dr. E. A. Groux presents a complete median fissure of the bone. There is little or no deficiency of bony substance, the malformation resulting



Sternum of the Late Eugene A. Groux, M.D.

from failure of union between its lateral halves. The bony segments deviate somewhat in relative size from their usual proportions, as will be seen in the accompanying figure. The two halves of the cleft bone are separated by an interval of one inch at the widest part, the junction of the upper and middle third is one inch and four-tenths. Below, the lateral halves of the sternum are united by an arthrodial joint. This joint is limited to the lower segment of the gladiolus, connecting its opposite halves. The cartilages which invest the articular surfaces blend below with the xiphoid appendix. The costo-sternal articulations are normally disposed except the fifth, sixth and seventh. These are placed higher than usual, so that the seventh costo-sternal articulation falls at the junction of the third and fourth segments of the gladiolus.

"The autopsy was made October 17, 1878, by Henry Riedel, M.D., of this city. Among a number of medical men present were the following: John C. Dalton, M.D., LL.D.; Charles Jewett, A.M., M.D., D.Sc.; Lewis S. Pilcher, A.M., M.D.; Henry J. Hesse, M.D., and George W. Baker, M.D. The sternum being removed, was handed to L. S. Pilcher, M.D., for examination, after which he wrapped it in a newspaper and placed it on the floor under the table. 'It being understood that no part of the body should be removed,' one of the physicians present in a short time disappeared, and with him the sternum of the late Dr. E. A. Groux. Some time afterward he gave the sternum to Dr. L. S. Pilcher.

"Through the influence of George Wieber, M.D., permission was given by Mrs. Groux, through Mr. Walldorf, to present the sternum to the Brooklyn Anatomical and Surgical Club, where it remained for a number of years, finally passing into the possession of Dr. L. S. Pilcher, where it remained for some time, who presented the sternum to the National Museum at Washington, D. C., where it still remains."

William Schroeder, M.D.,
Secretary of Historical Committeee.

MEETING PLACES OF THE MEDICAL SOCIETY, COUNTY OF KINGS.

The preliminary meeting to organize the above named society was held at the residence of Adrian Vanderveer, M.D., on February 25, 1822, in Flatbush, the organization of the society taking place at the Auld Lang Syne Tavern on Fulton street near Pineapple, on March 2, 1822. This tavern was kept by William Stevenson, the meetings of the society alternating between this tavern and the one in Flatbush, known as the Old Van Bueren Tavern kept by Simon Voris, and so continued until 1827, when the society's meeting place was changed to the Apprentices' Library building, corner of Henry and Cranberry streets. At this time the meetings were held quarterly until 1837. On July 10th of this year the society changed its meeting place to the Brooklyn Lyceum, afterwards known as the Brooklyn Institute, on Washington street, near Concord. This remained the home of the society until 1866, when a change was made to the Hamilton building, 44 Court street, corner Joralemon, on the site of which the large office building is now being erected. The last meeting was held in this building in April, 1875. The following month the society met for the first time in Everett hall, 398 Fulton street, now being used by the firm of A. D. Matthews & Sons. A feeling among the members that the society should have a permanent home led to the purchase of the building known as 356 Bridge street. The first meeting held in this building was on the evening of May 17, 1887, with the late William Wallace, M.D., as President, the last meeting being held on the evening of August 30, 1898, the September meeting being held in Apollo hall, 102 Court street, and with one exception the society has held its meetings in this hall up to the present time, April, 1900.

The exception here noted was the annual meeting, held on the evening of January 16, 1900, which was held at the new building of the Medical Society, County of Kings, 1313 and 1315 Bedford avenue, with Joseph H. Hunt, A.B., M.D., as President, and an attendance of about 316 members. At this meeting fifty-eight propositions for membership were presented, and five to be restored to active membership. Prof. Charles E. West, A.M., M.D., LL.D., P.D., was elected an honorary member of the society at this meeting. Lewis Stephen Pilcher, A.M., M.D., was elected President of the Society.

William Schroeder, M.D.,
Secretary of Historical Committeee.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

As a result of the examination held March 31st, at Seney Hospital, Paul M. Pilcher, Wm. R. Dancy, and F. B. Cross have been appointed to the House Staff.

At St. John's Hospital, Elisha P. Porter of North Carolina, and Lester P. Hoole of Brooklyn, both graduates of the College of Physicians and Surgeons, were the successful candidates for appointment as internes.

The examinations at the Brooklyn and Norwegian Hospitals were held the last week in April. On the 19th of May candidates must appear at St. Mary's Hospital to try for the five positions to be filled there, the term of service being eighteen months. The test will include oral, written, and practical work in the ward; and the examiners are Drs. Walter Wood, Kennedy, Harrigan, and Kuhn. St. Catherine's has also five appointments to be made; term of service, fifteen months. The examinations will be held May 16th. The positions in Long Island College Hospital are given to members of the graduating class of that institution, and will be announced at the commencement.

On the 26th of February, services of dedication were held in the new Pathological Laboratory and Lich (mortuary) Chapel at St. John's Hospital. The building is two stories, the first floor containing the mortuary and chapel, the floor above fitted up with everything necessary for the laboratory. Dr. Archibald Murray is the pathologist, Dr. Warren S. Duffield assistant, and Dr. J. M. Van Cott consultant.

There being no dispensary at St. John's, Dr. Bunn, the superintendent, requests the names of physicians living in the neighborhood who would be willing to have referred to them cases which apply at the hospital for treatment and are not hospital cases.

The Medical Board of the new German Hospital was organized last September, and this Board selected the visiting staff. The hospital was opened in December. The staff is composed of the following well-known medical men: Visiting Physicians, Jacob Fuhs, Oswald Joerg, Chas. Zellhoefer, Joseph Meyer; Visiting Surgeons, George R. Fowler, J. A. Bullinger, F. Weisbrod, H. Bullwinkel; Ear, Nose, and Throat, J. H. Droge; Ophthalmologist, Robert Schmeltzer; Radiography, H. P. Bender; Neurologist, William Browning; Pathologist, William Moser; Bacteriologist, Ezra H. Wilson. The Executive Committee is composed of Drs. Fowler, Fuhs, and Droge, and the Medical Board, H. P. Bender, William Browning, J. A. Bullinger, H. Bullwinkel, J. H. Droge, Jacob Fuhs, G. R. Fowler, Oswald Joerg, Joseph Meyer, Robt. Schmeltzer, F. Weisbrod, and Charles Zellhoefer. In March Drs. Schmeltzer, Joerg, and Bullinger resigned from the Staff and Board.

Dr. Wm. Francis Campbell was appointed to represent the Medical Society of the State of New York at the coming International Medical Congress in Paris.

The eighth annual meeting of the Association of Alumni of St. Mary's Hospital was held in the evening of April 16th. The papers read were: "The X-ray as a Means of Diagnosis," John A. Lee; "Ectopic Pregnancy," Victor L. Zimmerman; "Membranous Rhinitis," John J. McCoy; "Cerebral Meningitis," John L. Waldie. The dinner was held the next evening at the Clarendon Hotel.

Dr. Arthur R. Jarrett of Halsey street has gone to California for a stay of several months.

Dr. Norman P. Geis of Classon avenue was married April 4th to Miss Mabel Pouch, daughter of Mrs. Harriet E. and the late Alfred J. Pouch of Greene avenue.

Dr. John Cooper of St. James place, who was recently made an honorary member of the Medical Society of the County of Kings, died March 29th, aged eighty-five years; and Dr. Robert F. Cunnion of Jay street died April 7th.

On Easter Sunday, there was dedicated in the Chapel of St.

Mary's Hospital an organ, as a memorial to Dr. T. Dana Fitzsimmons, the gift coming from his father.

It is earnestly desired that all physicians intending visiting the International Medical Congress in Paris this summer, send their names and the approximate dates of departure to the News Editor at once. If the list can be published in the June number, it would be of interest and value to those going. Notice must be received the first week in May.

As a matter of record as well as interest to the profession of this city, it is intended in some future number of the JOURNAL to publish the names of Brooklyn physicians who served in the recent war, with a brief account of their service. Those who have not received a notice to this effect from the News Editor, should communicate with him.

Dr. James W. Ingalls has removed to 874 Lafayette avenue.

The many friends of Dr. George E. West have heard with regret of the operation for amputation of the foot, which he was obliged to undergo at the Brooklyn Hospital the latter part of March.

The News Editor wishes to call to the attention of those intending to send notes, his change of address to 1277 Bedford avenue.

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NEW BOOKS AND BOOK NOTICES.

All books received by the* JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.

PROGRESSIVE MEDICINE—Volume IV. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 398 pages, 51 engravings and 5 plates. Lea Brothers & Co., Philadelphia and New York.

This volume deals with diseases of the digestive tract and allied organs, the liver, pancreas and peritoneum; genito-urinary diseases in the male; fractures, dislocations, amputations, surgery of the extremities and orthopedics; diseases of the kidneys, physiology, anatomy, hygiene, practical therapeutics.

It completes a very valuable series of books.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M.D., and one hundred Associate Editors. Vol. IV. The F. A. Davis Co., publishers, 1899.

This volume contains contributions of especial value and interest. They are practical, that is written for the busy man. "Diarrheal Diseases of Infants," "Malarial Fevers," "Locomotor Ataxia," "Intubation," "Diseases of the Liver," "Meningitis," are some of the subjects dealt with. Abundant clinical evidence of the truth of the statements is gathered from the periodicals of the day. Well executed illustrations and plates are inserted.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY, being a yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery drawn from Journals, Monographs and Text-Books of the Leading American and Foreign Authors and Investigators. Edited by Geo. M. Gould, M.D. Published by W. B. Saunders, Philadelphia. 1900.

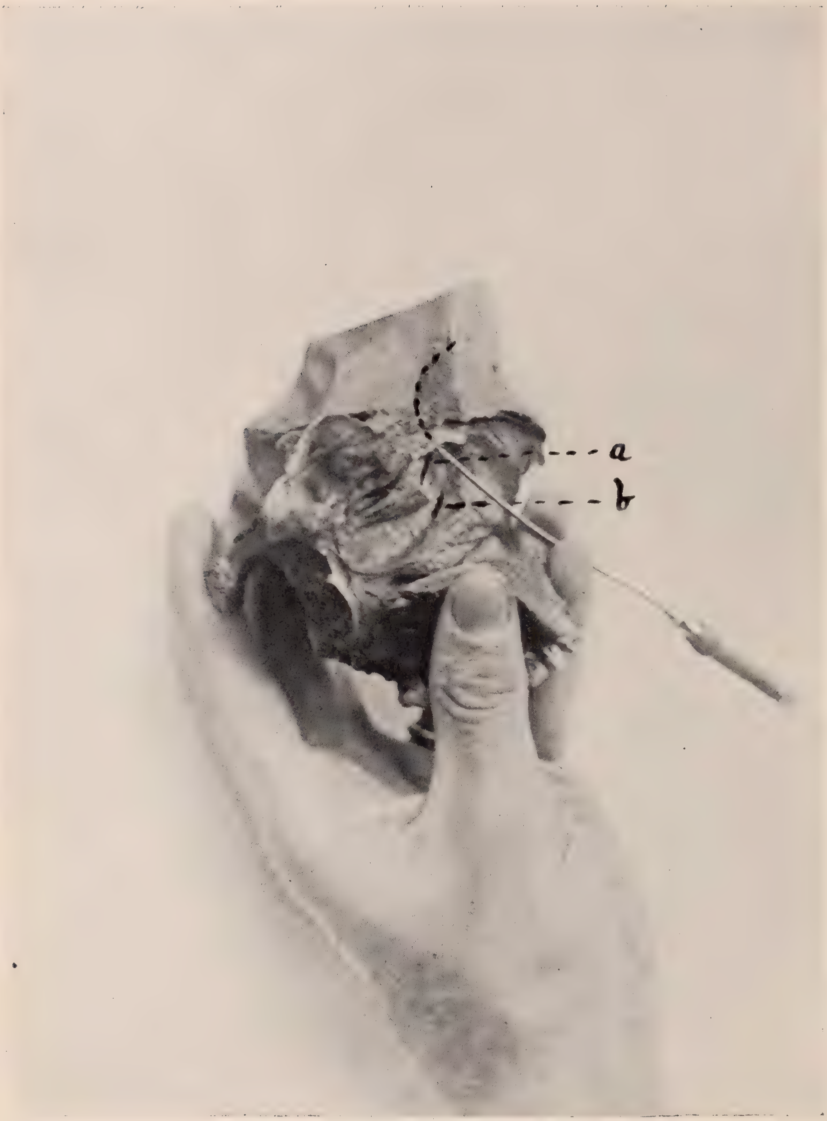
This valuable work appears now in two volumes, one devoted to medicine and the other to surgery. It is an old friend and much prized. The division into two parts makes it an easier matter to handle it.

When we say that it maintains its reputation as one of the most reliable reference books, we think that sufficient to commend it to every library and every practitioner.

REFRACTION AND HOW TO REFRACT. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, etc. By James Thorington, A.M., M.D., Adjunct Professor of Ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Two hundred illustrations, thirteen of which are colored. Octavo. 301 pp. $1.50 net, cloth. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa.

In a treatise of this character, the abstruse formulas of Donders and Landolt would be out of place, but, as far as the practical application of the principles of refraction is concerned, this work has few if any equals and probably no superiors. It is noted that *stenopeic* is used in place of *stenopaic*. Although the latter is in common use yet the former is more in accordance with its etymology. Proof has evidently been read with care and, for a first edition, is unusually free from errors. The last chapter contains many useful hints regarding the fitting of spectacle frames. Doubtless the profession will give this text-book as cordial a reception as was given to the manual on "Retinoscopy" by the same author.

JAMES W. INGALLS.



EMPYEMA OF FRONTAL SINUS.

Presented by WILLIAM C. BRAISLIN, M.D.

a. Groove marking openings into frontal sinus and anterior ethmoidal cells. The flushing tube is shown entering the former. Dotted line shows direction of bent tube within the sinus.

b Opening into antrum of Highmore.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 409th Stated Meeting, Thursday, December 14, 1899

(Continued.)

The President, CHARLES C. HENRY, M.D., in theChair.

Program.

SECTION III.—WALTER C. WOOD, A.B., M.D., CHAIRMAN.

	PAGE.
Empyema of the Frontal Sinus (**Illustrated**) **William C. Braislin, M.D.**	395
Rhinolith; Specimen and History (**Illustrated**) **Lewis H. Miller, M.D.**	398
Tooth from the Right Naris; Specimen and History **Heber N. Hoople, A.B., M.B., M.D.**	403
The Pathology of Glaucoma **Edward W. Wright, A.M., M.D.**	404
Traumatic Paralysis of Ocular Accommodation; Patient **James Cole Hancock, M.D.**	410

Empyema of the Frontal Sinus.

William C. Braislin, M.D.

Many cases of transient inflammation of the frontal sinus arise in connection with similar states of inflammation of the Schneiderian membrane lining the nasal cavity proper.

Most cases of acute inflammation subside without serious inconvenience and without symptoms other than those commonly ascribed to the so-called severe "cold in the head." Other cases of acute inflammation of the frontal sinus occasion considerable discomfort, but the products of inflammation being slight of amount or early finding a free exit, rapidly subside. The following is an example of transient frontal sinus disease:

A man applied for the relief of a severe earache, accompanied by mastoid pain and tenderness. A free incision through the attic portion of the tympanic membrane resulted in a free discharge of bloody serum and a rapid subsidence of the pain in the ear and mastoid region; but at this stage, pain in the frontal region became a prominent symptom, having been, until now, submerged by the more intense pain in the mastoid region. After a day or two there was a spontaneous, and rather free, discharge from the region of the infundibulum of the site affected, with coincident disappearance of the frontal pain.

In cases in which the infundibulum is completely blocked and where it is impossible with cocaine anesthesia to obtain drainage through the infundibulum or when the ethmoid cells are also involved it is necessary to perform the external operation. The best methods are excellently described and figured in "The American Text-book of Diseases of the Eye, Ear, Nose and Throat" (De Schweinitz-Randall), by Dr. Myles, pages 981-82. The case which I am about to describe has relation only to the internal method.

Etiology.—The causes usually assigned to the production of frontal empyema are those commonly obstructing the upper portion of the nasal chambers and the region of the infundibular opening. Among these, polypoid or myxomatous degeneration of the mucous membrane are the most common. Syphilis sometimes invades the sinuses, and, as is shown by the case to be related, the immediately exciting cause may be influenced.

Symptoms.—Pain over the eyes and throughout the anterior surface of the frontal bone is always present when the frontal sinus contains pus, while at the same time more or less obstruction of the infundibulum exists. The pain, when the obstruction is complete, may occasion symptoms of the most marked prostration, and may be accompanied by high temperature. Pain on deep pressure, and failure of the transillumination experiment may be additional symptoms. In the more advanced cases there is sometimes swelling over the region of the frontal sinuses, or the eye may be pressed forward in the orbit.

Diagnosis.—Diagnosis is made by the presence of the pain mentioned. The tenderness to deep pressure is sometimes more marked at the prominence at the inner extremity of the superciliary ridge. The existence of a purulent discharge which can be traced to the infundibular opening is the most absolute test of the condition. A characteristic appearance is the presence of pus appearing in drops from beneath the anterior edge of the *middle* turbinals, where it remains pendant in globules of rather thin, greenish yellow or creamy gelatinous pus.

Experience with the transillumination lamp has not led me to attach much importance to it. Certainly a *negative* result of the test is not of necessity indicative of the absence of pus in the sinus.

Treatment.—Of course the determination of the presence of pus in the sinus is an indication for relieving the pressure. The preferable manner of reaching the sinus is that through the infundibulum. This failing, no hesitation should exist as to opening the sinus exteriorly. The best method of all, the external operations, is probably that performed by Luc, who makes a large opening into the frontal sinus, introduces a large silver drainage tube through the fronto-nasal canal, and closes the external wound. The tube is left in for several weeks, and through it the sinus is irrigated.

The case recently seen and which greatly interested me is as follows:

The patient, a strong, athletic man, thirty-five years of age, was first seen May 11, 1899. For a year, a nearly constant purulent discharge from the nose had existed, being worse on the left side. There were occasional exacerbations of the symptoms, at which time pain over the frontal region was severe. The trouble followed an attack of "grippe," during which attack pain in this region had been markedly severe, with wandering delirium, high fever and great prostration. The beginning of the discharge from the nose had afforded some relief, but pain was of more or less constant occurrence and the discharge continued. On examination soreness and tenderness over the left frontal region were marked, while in less degree the same symptoms existed on the right side. The pus was of a greenish-yellow color and of an unpleasant odor, and was found to emerge into the nose from beneath the middle turbinated bodies. The mucous membrane of this region was of more than normal redness, extremely sensitive and somewhat hypertrophied (puffy). At certain points partly inspissated pus covered the nasal mucous membrane.

Pain on deep pressure was marked over both sides, more on the left. The transillumination lamp, however, gave negative results.

By repeated applications of cocaine the region of the infundibulum was reached and a long tipped syringe was used to clear the passage on the first occasion; later, a silver flushing tube was used.

In order to facilitate access to the infundibulum of the left side and to render the passage more permanently free, the anterior end of the middle turbinated bone was removed by the method here shown. This treatment rapidly affected the disorder favorably, though on occasions when an interval of two or more weeks elapsed without treatment the patient generally returned with more or less pain, which on each occasion was at once relieved by the treatment. As the patient lived out of town, treatment was less regularly carried on than was convenient, and during the summer was permanently interrupted. The improvement also made further work on the nose seem, from his point of view, unnecessary.

On October 12th he returned with all the symptoms aggravated. One week previous, after a long drive in a strong wind, severe pain began in the frontal region, this time more severe on the *right* side. This having been also the side most exposed to the wind. Four days from the time the pain recurred pus began to flow from the right nasal canal and a smaller amount also from the left. Pain, however, still continued to be severe and two days later he returned to me for treatment. The discharge at this time was very profuse, the pus thick, creamy and markedly offensive, appearing in both nostrils. From beneath the middle turbinated it was observed to collect in globules previous to its descent further toward the nasal openings.

Treatment was again instituted by washing out through the silver tube. One week later the discharge had greatly decreased though the patient stated that even then he soiled four handerchiefs a day. The pus had then little or no odor but appeared in tenacious yellow masses, having a greenish tint, at the edges of the middle turbinated bodies. All pressure and pain disappeared later and the discharge again practically ceased.

The case has several unusual features: As there were no polypi or other pathological conditions of an obstructive nature, it must be supposed that the present case was one developed purely under the influence of the specific micro-organism of the "grippe."

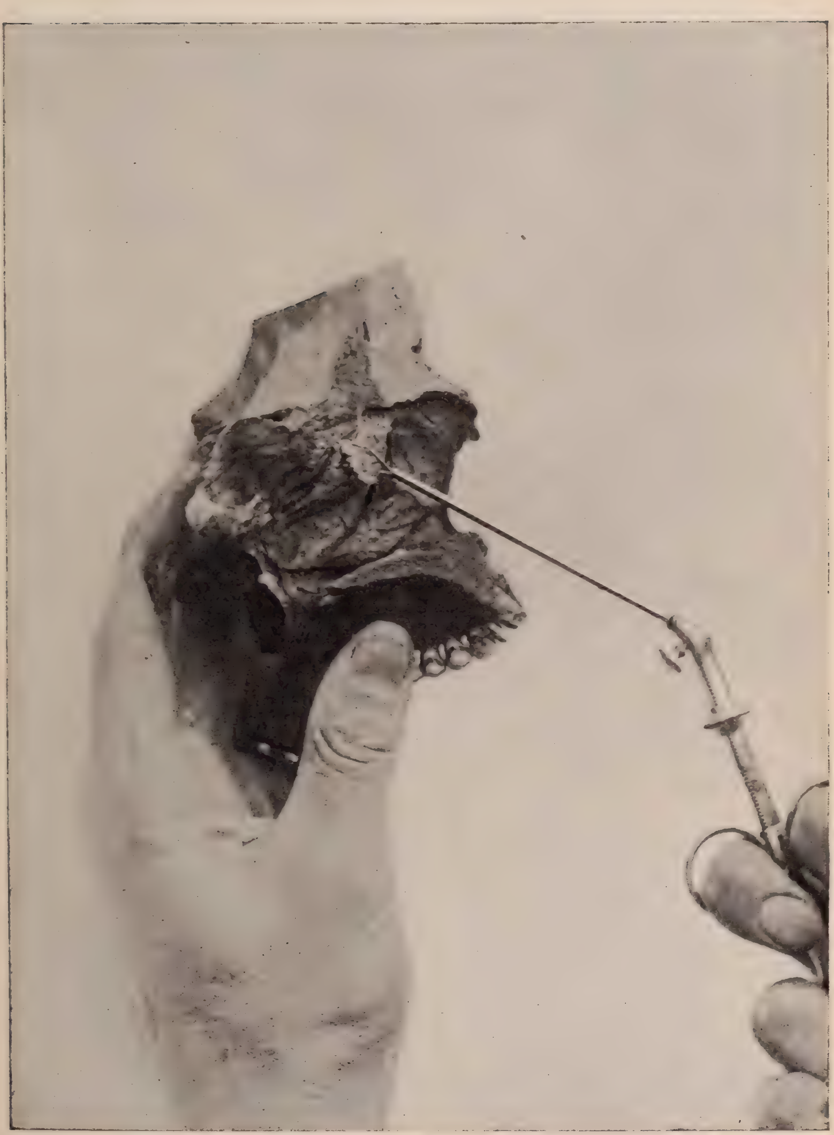
The transposition of the more severe symptoms and the greater amount of the discharge from one side to the other, leads one to conclude that both sinuses were separately diseased, or more likely, that, the bony septum between was lacking and fairly free communication existed between the two sinuses.

217 St. James Place.

Rhinolith; Specimen and History (Illustrated).

Lewis H. Miller, M.D.

The patient, a German woman fifty-three years old, appeared at my clinic two months ago, complaining of an obstruction of



EMPYEMA OF FRONTAL SINUS.

Presented by WILLIAM C. BRAISLIN, M.D.

Showing Bosworth's snare in position for removing anterior end of middle turbinated bone to gain freer access to infundibulum; the bone has been bisected with scissors.

the right nostril. She has been unable to breathe through the nostril for six years. I used a nasal speculum and the narrow edge of this rhinolith almost protruded from the nostril. It was removed without breaking, by the use of suprarenal extract and cocaine. After the specimen was sawed in two a cherry pit was found in the middle of it, which can be seen from the opening in the side. This had acted as the nucleus around which the calcareous deposit had formed, of the size shown in the illustration.

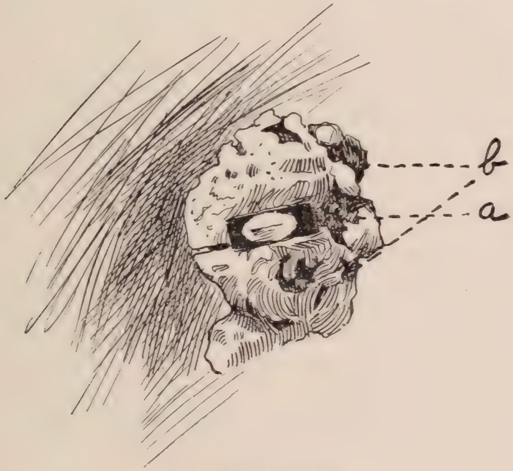
14 Spencer Place.

DISCUSSION.

Dr. Reynolds: I have had a case of disease of the frontal sinus in which the diagnosis was made not only by reason of the pain and severe headache but by a slight amount of crepitation. In some cases where the disease breaks through posteriorly the eyeball is made to protrude and the diagnosis of sarcoma or other malignant growth has been made and the operation has been done in some cases. In cases where the eye is pushed forward it is always to be borne in mind that possibly the frontal sinus may be affected and instead of breaking forward or downward in the middle meatus, the process has gone backward. In cases where it is necessary to open the sinus, going in from the corner, above the eye, using a long chisel and making a straight passage down through the middle meatus and breaking down the bone, will permit a good sized rubber tube to be applied; this tube can be left in place and will permit drainage into the nose; it is easy to keep the sinus washed out for a number of days until the discharge gets less, and then by removing the tube there is still plenty of room for drainage. By keeping the granulations away from the opening it will heal up. One must be careful not to damage the mucous membrane more than necessary, for in that case a persistent discharge will follow, the sinus will not fill up with new growth and a suppurating wound results. In many of these cases the operation will not entirely stop the discharge because the frontal sinus is only separated from the ethmoidal cells by a very thin wall as a rule, and the ethmoidal cells are also diseased. In operating it is not safe to promise a cure, as often the other cells are involved. A very free incision should be made and plenty of bone removed. By reflected light we can work down in the nose, insert a good sized drainage tube and so keep it easily drained.

Dr. Russell Fowler: The cases I have seen of disease of the frontal sinus have been such as demanded very free drainage. The old operation, as shown by the aperture in the specimen is good so far as the frontal sinus is concerned, but is difficult sometimes to clean out the ethmoid through that aperture. Some operators of late have turned back an osteopathic flap and opened the frontal sinus from below; this enables one to reach the ethmoidal cells. If drainage is necessary for a length of time in these cases a rubber tube is put from the sinus into the nose and then the external osteoplastic incision is closed, primary union results as a rule.

Dr. de Forest: It would appear from these gentlemen's remarks that diagnosis is a simple and easy thing and that all one had to do was to operate, and the patient would get well; unfortunately that does not always occur. I have in mind a physician who was himself a very good diagnostician, who came to Seguin's care with a diagnosis which Seguin confirmed as simply neuralgia of the fifth nerve. He was under Seguin's care for some weeks following out that line of diagnosis and resultant treatment. He then went to see Bosworth, who made an examination and discovered nothing wrong with the frontal sinus. In a short time afterwards he developed a protrusion of the eyeball upon one side, with complete blindness, and then saw Dr. Knapp. Dr. Knapp believed that there was a sarcoma which had developed in the back of the orbit, which was the cause of this bulging of the eyeball. I saw him later on and brought him back to the city from his home in Syracuse. A week after his arrival here he died, with all the symptoms of acute meningitis. I have always remembered Dr. Knapp's interest in the case with a considerable degree of regard, for he came over at four o'clock in the morning and assisted me to make an autopsy on the case purely for the purpose of finding out the real cause of death. It was an abscess of the frontal sinus, a diagnosis not suggested by any one; it had not been suggested at all. The pus had been retained within the sinus, had burrowed through the thin septum of bone separating it from



RHINOLITH.

Presented by LEWIS H. MILLER, M.D.

a. Cherry stone as nucleus.
b. Mass of irregular calcareous deposits. (Natural size.)

the eyeball and had formed an abscess cavity back of the eyeball, causing the eye to protrude and thus giving rise to the belief that it was sarcoma, and finally penetrated the brain and caused death by acute septic meningitis. So the diagnosis, even in the hands of the best men, is not always easy.

Dr. Walter Wood: Fortunately they are not all so difficult, for once in a while you get a periostitis externally and when that develops they come to the general surgeon. Not long since I operated by the external operation in two cases. One was due to syphilis, in which I also cleaned out entirely the structure of the nose and the hard palate as well. This case I recently presented to the Surgical Society to show that the bridge of the nose was not dependent on the nasal bones. I treated these cases with free and complete external drainage in addition to drainage through the nose. One I have kept track of for two years and one since January of the present year; both have been cured. This treatment of the frontal sinus through the external wound is not according to the treatment of those men who practice through the nose, but it is good treatment according to the principles of general surgery. Where you have bone sepsis you must have thorough drainage and prolonged drainage. Where there is once evidence of external infection the cases should be treated primarily from the outside, although I fully agree with the statement made that the cause of complete cure is the establishment of drainage through the nose.

Dr. Wright: I have seen many cases of frontal sinus suppuration and many of them have recovered without operation; a good many of them have refused operation, and a few of them I have seen operated upon. There is no doubt at the present time, in a simple uncomplicated case of frontal sinus trouble, but that the proper operation consists in an incision from the median line out through the eyebrow, raising a flap and removing a large portion of the outer plate of the sinus; then closing the external wound and trying to get union primarily, as you are pretty sure to do except at one little corner. This operation will leave no depression and very little scar, and usually the case will get well, although after a considerable length of time. That is one thing that often discourages operators in these cases, that they do not get well promptly; usually it is a matter of several months' treatment, but only for a few weeks is it well to leave in this rubber tube. At the end of that time inflammation has subsided around it and it can be pulled out through the nose, and then you have a patent opening from the inside.

As to operating from the inside of the nose, that is uncertain. In the majority of skulls which you examine you will find it is imposible to get into the frontal sinus by any operation within the nose without doing a good deal of damage and it is an uncertain method at its best. I know it is advocated by some, but they are not supported by the majority of the profession.

In regard to the pathology of these conditions, it is a little peculiar. The accessory sinuses of the nose, singular to say, are found on autopsy to be diseased, the seat of purulent inflammation or otherwise in a large proportion of all cases; so perhaps where you get one case, as you sometimes do, which is healthy, you will get one hundred cases of disease of the accessory sinuses of the nose; especially in disease of the respiratory passages, in pneumonia and influenza; and in erysipelas.

Another interesting fact is that the cavity most frequently involved is the antrum of Highmore; I am speaking now of these post-mortem cases. About sixty per cent. of all the cases of accessory sinus disease are in this antrum, thirty per cent. are sphenoidal, while the ethmoid make up the rest so far as frequency is concerned. Bosworth and others say that inflammation of the sphenoidal sinus is almost sure to result fatally. This is not so. There are many cases of severe inflammations of the sphenoidal sinus—I have seen two or three in the last year get well. A large number of inflammations of the sphenoidal sinus have very slight symptoms; in fact quite a number of old postnasal catarrh cases are really due to sphenoidal sinus trouble. The frontal sinus, while developing surgically and pathologically next to the antrum of Highmore shows very much fewer cases in frequency at the post-mortem table than does the sphenoidal sinus. This is well to remember, because a good many of these cases sometimes will have to be operated on pretty promptly; they get up acute attacks and that is followed by meningitis.

In regard to the rhinolith, I have had one or two cases; they are rare; I haven't seen one for two or three years; this one was so very large I do not see how it was extracted without breaking.

Dr. Braislin: There was not in this case any pus in the antrum; the symptoms were altogether from the frontal trouble. I made up my mind in this case that both the frontal sinuses were involved. There is difficulty in getting into the infundibulum by the internal method, and I think the access to it is often hindered by the anterior extremity of the middle turbinated. It seems to me it is often wise to remove that. There must be always considerable field for this method of operating, because in the milder cases where we could not get permission to do an external operation this method will have to be resorted to and in the case I now report it seemed quite fortunate.

Dr. Miller: The removal of this rhinolith was facilitated by the use of the suprarenal extract shrinking the parts thoroughly and by a ten per cent. solution of cocaine. The forceps were then applied and by a steady traction the mass was removed. The patient had a large nostril, but there was a very slight hemorrhage from it afterwards.

Tooth from the Right Naris; Specimen and History.

Heber N. Hoople, A.B., M.B., M.D.

This is an infantile canine tooth removed from the right naris of a girl 19 years of age, who came to my office occasionally to be treated for atrophic rhinitis. This was not visible during the early stages of the treatment of the patient. When first seen what appeared to be an ordinary swelling of the septum, like an exostosis, very slight in extent, was seen occupying the angle between the septum and the floor of the right naris, well back behind the caruncle, more than an inch beyond the anterior naris. There was no appearance of bone or tooth in the early stages, but in using through the nostril a probe covered with cotton I brushed over this protuberance of the septum, disclosing what appeared to be some very white bone. I paid no attention to it at the time, but when she came the next month or two later I brushed more mucous membrane away from it and said for her to come back some time and I would take the bone out for her. It did not rivet my attention even then, as it ought to have done, and it was not until she came back and reminded me she wanted the bone out of the right side of her nose that brushed the mucous membrane away and disclosed the ivory appearance characteristic of a tooth.

Wishing to confirm the diagnosis I sent her to Dr. Ferris for examination and then come back to me again. Dr. Ferris was kind enough to make this plaster cast of the tooth and came to my office in the evening to assist me in removing the tooth from this most unusual situation. I first drilled around the crown of the tooth pretty thoroughly with a dental drill run by an Edison motor, and cleaned away a good deal of resistance you would ordinarily meet with, but I did not know enough about the way in which teeth present and conduct themselves to go ahead with the removal of it, so Dr. Ferris took a forked instrument and with a few taps of the hammer knocked it backwards, because it was tilting backwards, and freed it from its attachments. She blew it out into the handkerchief, and you have it before you.

253 Gates Avenue.

The Pathology of Glaucoma.

Edward W. Wright, A.M., M.D.

Considering the eye-globe as a shell consisting of cornea, sclerotic and optic nerve, we have a closer cavity. Filled with its normal contents, it maintains its form; empty, it collapses.

The eye composed of soft tissues and intended for useful optical purposes must have a constant internal pressure sufficient to keep the coats of the eye of moderate fineness to give precision to the action of the internal and external muscles, afford protection to the delicate and sensitive membranes within it and not embarrass the circulation of the blood or impair the nutrition of the tissues.

The normal intraocular pressure is equivalent to a column of mercury one inch in height. As the number of pulse beats and degrees of temperature may vary in health so may the intraocular pressure fluctuate within physiological limits. When the pressure within the eyeball rises above the physiological boundaries, we have the complex disturbance of function and structure called glaucoma.

The regulation of the intraocular pressure, physiological and pathological, is due to those influences which affect the arteries, veins and lymphatics.

As a prelude to the study of the pathogenesis of glaucoma, a short synopsis of part of the anatomy of the eye is necessary.

The choroid membrane is one of the most vascular tissues in the body, being equalled in the number of capillaries only by the alveoli of the lungs. Not only is the rich blood supply to be noted but also the difference between the course of the veins and the course of the arteries. The arteries pierce the sclerotic coat at the posterior part and rapidly divide and ramify to form the abundant arterial supply to the choroid. The veins do not follow this plan but radiate from all parts of the choroid to four, five or six centers in the equatorial region of the eyeball and then pierce the sclerotic to join the venous vessels of the orbit. Where the cornea and sclerotic join we have the iris, ciliary plexus and ciliary muscles. The arterial supply comes from the union of arteries prolonged from the choroid with arteries branching from those supplying the external muscles. The veins do not take this course in their return. Those from the iris-ciliary plexuses and part of the ciliary muscle pass backward into the choroid and join the radiating whorls at the equator of the ball.

The lymphatics follow in a general way the course of the blood-vessels.

Of great importance is the outflow of the diluted lymphatic fluid into a vein; that is, the outflow of the aqueous humor into the venous canal of Schlemm.

This canal is a circular tunnel within the substance of the sclerotic just behind its junction with the cornea. It has veinlets coming from it and going outward to join the anterior ciliary veins. The canal is separated from the anterior chamber by a sieve-like formation. Each fiber is covered with endothelium; the interstices between the fibers are known as the spaces of Fontana.

It has been shown by experiments that diffusible substances have passed from the anterior chamber between the fibers of this region through the lining membrane of the canal and thence into the venous circulation.

It is considered that this communication between the anterior chamber and the venous circulation is one of the most important factors in the regulation of the normal intraocular pressure.

Perhaps accommodation or focusing the eye on near objects is a force that aids filtration through this sieve-like tissue. In accommodation the anterior surface of the lens bulges forward so that the distance between the lens and the cornea is less than it is when the eye is looking into the distance. Physiologists inform us that the aqueous humor is laterally displaced and that the periphery of the iris recedes to make room for it. At the same time, may it not slightly increase the pressure on the aqueous humor into the angle where the communication begins that reaches into the canal of Schlemm.

The normal intraocular pressure depends upon the proper performance of the duties of the arteries, veins and lymphatics. So that this internal pressure is the regulation of the secretion and excretion—the inflow and outflow of the fluids of the eye.

When the intraocular pressure is abnormally great we call the condition glaucoma and attribute the state to the presence of too much fluid within the eyeball. So, then, the pathogenesis of glaucoma is a study of the hypersecretion and retraction of the fluids of the eye.

Hypersecretion.—From causes outside of the eye there can arise a hyperemia of the blood-vessels within the eye from vasomotor influences. If these influences be maintained, there follows a partial or total stasis of the blood and in sequence a secretion from the vessels into the surrounding parts. The secretion is the secretion of edema. If this hypersecretion is more than the lymphatics can carry away at the time, there is a break in the equipoise between ingress and egress and the formation of a circle of conditions which soon make each condition worse. This heightened internal fluid pressure retards the flow of the blood in the veins by compression, and as the veins leave the eye through four to six outlets through the sclerotic, they are easily vulnerable to compression. Though the compression is equally exerted on arteries and veins, the veins suffer more and quicker on account of the different structure of their coats.

Thus, hyperemia in the vessels is increased, secretion is augmented, and the intraocular pressure correspondingly increased. Hypersecretion in such instances is brought about by influences outside of the eye that are physiological or pathological.

This reasoning explains many of the conditions existing in all cases of glaucoma, but it cannot be proven true because the pathological findings are the result of pressure from hypersecretion that may arise from other causes.

But if there is an endarteritis from syphilis, or an atheromatous condition of the arteries from gout or rheumatism, or an affection of the veins of the ciliary muscle as outlined by Brailey, or a condition of the choroid permitting a serous outflow as suggested by von Graefe, or a phlebitis of the veins of the choroid, or any condition of the bloodvessels of the interior of the eye that would readily permit them to be engorged and a stasis of the blood current produced by functional or pathological influences of the general circulation; we have the conditions that cause hypersecretion or edema, then follows compression of the veins, and so on in the same circle the intraocular pressure is increased.

It might be thought that the coats of the eye would serve as a support in the same manner as a bandage to an edematous leg, but the difference is marked by the fact that the compressible veins pass out through the coats. It is more comparable to the early stages of a strangulated hernia where the veinous flow is impeded by the constriction of the ring.

Were it the custom to extract all eyes that had decided glaucoma for twenty-four hours and subject them to pathological investigation, there might be secured the initial pathological lesion, but as eyes suffering from glaucoma are more quickly recognized than formerly and are treated much more successfully, we cannot expect to have many reports of the incipient eye lesion. As the pathological changes in eyes lost from glaucoma are varied and complex, it will ever be difficult to find the self-same primary pathological lesion in every case, so the believer in the hypersecretion cause of glaucoma must rest content on the proof that some lesion in the vascular arrangement was present before the hypersecretion began.

Retention.—In eyes lost from glaucoma following cataract operations or operations on the iris, it has been found that part of the iritic angle had been closed by parts of the iris as shown in these sides. Von Graefe observed that broad iridectomies in severe cases of corneal ulcer with glaucomatous symptoms caused a marked decrease in the heightened intraocular tension. Following this idea, he performed broad iridectomies in pure glaucoma cases and found to his great delight that he had discovered an operation that was highly successful in its results. It is a well-known fact that instillation of atropine has caused glaucoma by the folding up of the iris into the iritic angle. These facts and others stimulated research for the causes of glaucoma in the iritic angle. Knies of Vienna and Weber of Darmstadt report pathological changes in the fibers and spaces between the anterior chamber and the canal of Schlemm. Others have reported adhesions of the iris across the angle. And thus was evolved the retention theory, *i. e.,* the closure of the iritic angle prevented the usual outflow of the normal fluid of the eye and consequently an increase of fluid within the globe, resulting in glaucoma.

As the pathological findings of Knies and Weber could not be satisfactorily proven to be the initial lesion, nor the cause for these changes shown, and as these pathological changes have not been generally conformed, and as others have found adhesions of the iris across the angle, it has been deduced that the ciliary plexi being hyperemic would press the peripheral part of the iris forward and occlude the iritic angle.

Priestly Smith of Birmingham, England, examined hundreds of human crystalline lenses and stated that the older the lens, the larger its size. The cornea does not grow after the sixth year and the eyeball ceases growth after the twentieth. He maintains that his measurements prove that the lens keeps on growing until about the seventieth year. In embryonic life the optic vesicles become pitted, then indented, then infolded, and then separated. This separated part becomes the crystalline lens and is part of the epiblastic membrane. Like all epithelial tissue, it sheds epithelium. As it has a capsule, the epithelium cannot escape but is compressed between the lens and the capsule and thus its size is increased. As it is a non-vascular organ, the growth is very slow. This increased size of the lens makes the space between the lens and the sclerotic smaller and therefore a smaller channel for fluids to pass in their natural course from the posterior to the anterior chamber. If this increasing size of the lens with age is true, it is an important factor, especially when we remember that glaucoma generally occurs in middle-aged or old persons and usually in small eyes.

The retention theory ascribes the initial step to the hyperemia of the ciliary plexi. The hypersecretion theory ascribes the initial step to hyperemia of the ciliary plexuses and choroid. They have in common the hyperemia of the ciliary plexuses. One interprets this congestion as leading to pressure forward; the other to hypersecretion. What is there to prevent both conditions, pressure and hypersecretion, in a case of glaucoma?

One cause may predominate in one case and the other in another according to predisposing and existing conditions immediately prior to the attack.

Another factor is the amount of albumen in the fluids of the chambers of the eye. After repeated paracentesis of the anterior chamber, the aqueous humor becomes more albuminous; in cyclitis the aqueous humor contains more albumen; when the pressure in the veins is increased, the edematous fluid therefrom contains more albumen; albumen in a fluid renders it less diffusible through membranes. In glaucoma the engorged veins may give off a fluid richer in albumen and the resulting humor finds greater difficulty in passing through the lining membrane of the Schlemm canal; and may thus be an element in the pathogenesis of glaucoma.

When the intraocular pressure has abnormally increased, we find its effects manifest on the structures of the eye. The cornea becomes edematous and therefore cloudy or steamy, varying according to the rapidity and amount of pressure within the globe. The ciliary nerves are compressed and paralyzed by the high intraocular tension, accounting for the loss of sensation of the cornea, the dilated pupil and loss of reaction to light. The pain is caused by the pressure on the sensory branches of the ciliary nerves. The redness and edema of the optic nerve in acute attacks and the excavation of the nerve in chronic cases arise from the heightened pressure. The loss of vision by the ischemia and atrophy of the retina. The pathological findings are many and varied, depending on the force and duration of this internal pressure.

The predisposing causes of glaucoma would form a chapter of interest, the influences of prodromal attacks and premonitory conditions would aid in the study; the classification of glaucoma and the family resemblance of each division would be advantageous; the differential diagnosis practical; a record of the symptoms useful, and the mode and efficacy of treatment valuable, but in an article of circumscribed length we must forbear.

115 Montague Street.

DISCUSSION.

Dr. Ingalls: The main factor in the pathology of glaucoma is the venous congestion. I believe it was Priestly Smith who likened it to strangulated hernia, or perhaps we might carry on the comparison and called it like hemorrhoids. Possibly a few words about the treatment would not be out of place.

Dr. Sutphen of Newark a few years ago read a paper before the American Ophthalmological Society in regard to the use of salicylate of sodium in relieving pain, relieving the symptoms, and he noted several cases in which operation had been advised and by the use of salicylate of sodium the cases were tided over or made a fair recovery without any operation at all. I have had occasion to carry out his ideas in quite a number of cases, and although they did not cure the patients they served to relieve the pain even better than any form of opiates. I don't know how to explain that fact. Perhaps it is due to some gouty diathesis or rheumatic trouble existing in the patient. I have followed out the plan of using it in cases of severe injuries to the eye where men were in perfect health, and although it was not successful in every case, in eight out of every ten great relief was experienced from the use of the salicylate of sodium. There is another method which should be combined with this medication. It is an old plan and yet it has been somewhat neglected; of late, massage of the eyeball acting to a certain extent to restore the circulation. At the last meeting of the International Ophthalmological Congress a long paper advocating massage of the eyeball for various diseases of the eye was read, and the author dwelt with special emphasis on the benefits to be derived from massage in the treatment of glaucoma. The thumbs are placed over the site of the eyeball or over the cornea and pressure is gently made and then released, and then it is repeated with the other thumb. That is continued for some five minutes and in a few minutes the tension is appreciably lessened; unfortunately it does not remain so long. Perhaps in a few hours, or twenty-four hours, the tension comes back; but one can readily see there is a mechanical reason for the treatment of glaucoma by proper massage. Von Graefe's method of iridectomy is the last resort and, as a rule, should be done early in the attack. If von Graefe had done nothing else to gain the gratitude of humanity, we would still owe him a great debt for the operation of iridectomy, for about one-half of the cases are saved by this operation which he devised.

Dr. Herman: Is the removal of some of the fluid by means of an hypodermic needle a method of treatment now recommended?

Dr. Ingalls: The operations are numberless that have been devised for the relief of the intraocular tension, and certainly that would be one of the methods. It would take a long time and perhaps not be very interesting to describe all the operations that have been attempted; all have this one object in view—to relieve the tension by making an incision.

Traumatic Paralysis of Ocular Accommodation; Patient.

James Cole Hancock, M.D.

This boy was admitted to the Eastern District Hospital early in September, having received a blow across the right eye with a baseball bat. The lid was badly lacerated and there was extreme dilatation of the pupil with, as we found out afterwards, absolute paralysis of accommodation. The usual routine treatment has been carried out, the tonic treatment with pilocarpine, 1 per cent. solution, and so on, and it has been a very obstinate case. During the day in sunlight we find that the pupil of the injured eye is about the size of the other. To-night, with the gaslight, you will find it is considerable more dilated. He has no special error of refraction; his distant vision is about normal.

43 Cambridge Place.

DISCUSSION.

Dr. Ingalls: The case which Dr. Hancock has presented is one of considerable interest. He, with characteristic modesty, said nothing about the plastic operation that was done. You may have noticed there was a very slight scar over the lid. Many times operations on the lids are rather difficult, but it is extremely difficult where the parts are badly torn or lacerated to get them so put in perfect apposition as to heal in good shape. This scar shows very little and perhaps some of you hardly noticed it at all, and perhaps in the course of a year or two you would have to hunt for it to find it. The condition is occasionally met with in injuries to the eye from the fist, or sometimes from a stick. A few years ago I saw a similar case. A child playing with his mother had a stick in his hand, which struck the eye with considerable violence, and there was dilatation and some loss of accommodation for about a week. After that it disappeared. I think, as a rule, the prognosis is good; they usually clear up in the course of a few weeks.

Of course, as we know from the loss of accommodation and dilatation of the pupil, there must be a disturbance of certain filaments of the third nerve; the question naturally arises, why are not some of the other filaments disturbed, so that we get ptosis and other symptoms?

Dr. J. C. Cardwell: I am interested in the origin of this paralysis. The first supposition is that the third nerve has been injured in some way, because this reflex is derived through the third nerve on. The large branches of the third nerve are not injured, otherwise we would have paralysis of some other external ocular muscles. The ciliary nerves coming out through the ciliary ganglia must have been injured or pressed upon, and this might happen by increase of pressure in the eyeball itself, as they come through the coats. These filaments could easily be injured by a sudden increase of pressure without injury to the other branches of the third nerve.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.
ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 6. Whole No. 150 — Brooklyn, N. Y., June, 1900. — Single copies 25 cents; $2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

THE VARIETIES OF RHEUMATISM AND THEIR DIFFERENTIAL DIAGNOSIS FROM RHEUMATOID AFFECTIONS.

BY GLENTWORTH R. BUTLER, M.D.,
Chief of the Second Medical Division, Methodist Episcopal Hospital; Attending Physician to the Brooklyn Hospital.

Read before the Medical Society of the County of Kings.

The list of diseases formerly embraced under the term "rheumatism" has undergone alterations within the last one or two decades. Certain ailments, of which joint changes form a more or less characteristic and important symptom, have been removed from the rheumatic group and reclassified more in accordance with our changed ideas as to their etiology and pathological character. It must be said, however, that with reference to some of these the question as to their exact nature and origin is still unsettled and further modifications may be made as a result of subsequent study and research.

I. Classification.—For the purpose of this paper the diseases which, with one exception, present articular symptoms either as a chief or a minor feature, may be broadly divided into the rheumatisms proper, and the rheumatoid affections, the latter embracing all conditions which may be and at times have been mistaken for rheumatism.

(*a*) *The Rheumatisms.*—The true rheumatisms comprise rheumatic fever (acute or subacute), chronic articular rheumatism, and muscular rheumatism (acute, subacute, or chronic).

1. Acute articular rheumatism is generally acknowledged to be a non-contagious specific infectious disease, although like scarlet fever, measles, and other acute infections, the causative organism has not as yet been isolated and identified. Accordingly, this disease is very properly called rheumatic fever. The irregular temperature, the multiple joint lesions, the tendency to involvement of the serous membranes, the rapid occurrence of anemia, the leucocytosis, the tendency to relapse, and the occasional apparent epidemicity of the disease are characteristic of an infection. Moreover, cases are encountered in which the disease has manifested itself by extra-articular symptoms. I have elsewhere reported instances of acute gastro-enteric rheumatism in which the antecedent or subsequent occurrence of sore throat and joint symptoms, as well as the result of the therapeutic test, proved very conclusively the rheumatic nature of the vomiting and abdominal pain.

There is no doubt that we do not realize quite as clearly as is desirable that the effects of the various infections are not always manifested in what we are accustomed to consider a typical and pathological manner. Thus the presence of intestinal ulceration is not an absolutely requisite local lesion in the post-mortem diagnosis of typhoid fever, for the brunt of the attack may be borne by the lungs, producing a pneumonia (pneumo-typhoid), the kidneys with a resulting acute nephritis (nephro-typhoid), or a general typhoid septicemia may occur without enteric localization; or scarlet fever may kill without an eruption; or in lobar pneumonia the general systemic infection be so overwhelming that death takes place in the stage of engorgement and beginning consolidation.

2. Chronic articular rheumatism is by some writers classed with the infections, but the evidence in favor of this view is at present by no means convincing. It is essentially a chronic disease and in the majority of cases its onset is gradual and insidious. It is certainly not a common sequel of rheumatic fever,

for it is unusual to obtain a history of antecedent acute attacks. Occupations involving exposure to cold and dampness constitute the most important predisposing causes.

3. Muscular rheumatism or myalgia is regarded by certain authorities as an affection caused by an attenuated form of the same toxin, whatever it may be, which is responsible for rheumatic fever. From this point of view one may consider it a general disease with a varying localization of the painful symptoms, affecting the muscles and their fascial and periosteal attachments rather than the articulations. In favor of this view it may be pointed out that it frequently occurs in otherwise robust and healthy men, that it has been preceded or followed by true rheumatic fever, and that it may exhibit a certain epidemicity. Other authorities, however, consider it to be a neuralgia of the sensory nerves. Certainly the occasional remarkable, even if temporary, relief afforded by acupuncture, heat, or the faradic current, tends to support the theory of its purely neurotic origin.

The distinguishing characteristic of the true rheumatisms may be said, in a general way, to be their very frequent occurrence as a result of cold and exposure. Indeed, in speaking of the etiology of various manifestations of the rheumatic diathesis, especially certain forms of neuritis or neuralgia, some writers consider exposure to cold as synonymous with rheumatism.

II. Rheumatoid Affections.—1. Under the general heading of rheumatoid affections gout and arthritis deformans stand paramount.

2. Other diseases or conditions attended by joint symptoms or changes which may possibly be mistaken for rheumatism are the post-febrile or secondary and septic arthritides. These comprise the so-called gonorrheal rheumatism, which is a typical secondary arthritis, usually monarticular, affecting only one of the larger joints and lasting for months or years; the so-called scarlatinal rheumatism, a multiple septic arthritis resembling the articular symptoms of rheumatic fever; the pain, swelling, and effusion (serous or purulent) of many joints, which frequently complicate cerebrospinal fever; the joint swellings which may occur during the period of desquamation in smallpox; the articular complications of pyemia, in which one or more joints may become inflamed with rapid suppuration and destructive changes; the red, swollen and painful joints, both large and small, which occur in dengue; and the less frequent but still possible articular inflammations

occurring in connection with typhoid fever, dysentery, and glanders.

Here may be mentioned the acute arthritis of infants, a sudden inflammation of a single large joint, usually the hip or knee, which rapidly becomes purulent. So also with acute osteomyelitis, a condition liable to be mistaken for a much less fatal ailment, in which there are boring pain, swelling and tenderness, usually of one, possibly of more than one, of the ends or epiphyses of the bones entering into the formation of the larger joints, generally in the lower end of the femur or in the tibia, and attended with high fever and serious constitutional disturbances.

3. Certain diseases of the blood present marked joint symptoms. In hemophilia there may be swelling and redness, mainly of the larger articulations, closely resembling that which occurs in rheumatic fever; in the arthritic forms of purpura there are multiple joint swellings; and in scurvy there may be apparent or actual arthritis.

4. In some affections of the nervous system joint changes are in evidence. Thus the association of chorea with multiple arthritis, probably indeed with rheumatic fever, is well known. There may be multiple joint inflammations in acute myelitis. In locomotor ataxia occur the curious joint lesions known as arthropathies. One or more joints, usually the knee, but also the ankle or hip, may undergo a sudden, perhaps great, swelling, frequently without pain. The cartilages and bones disintegrate and the joint may be thoroughly disorganized and dislocated, the resulting changes resembling those of arthritis deformans. Anthropathies may also occur in syringomyelia. The joint and bone changes in hypertrophic pulmonary osteo-arthropathy may also be classed here.

5. Other diseases involving the joints are acute synovitis, which may be either traumatic or rheumatic, and usually affects the knee-joint; tuberculosis of the joints; and the bony changes in rickets.

III. Differential Diagnosis. Rheumatic Fever.—There is rarely, if ever, any difficulty in making a correct diagnosis of rheumatic fever in the majority of cases. The sudden onset without antecedent disease, of a polyarthritis, the inflammation shifting from joint to joint, with fever, sweats, sudamina, and rapid anemia, is sufficiently distinctive to prevent mistakes. Nevertheless there are some sources of possible error, especially when but one or two joints are affected.

1. In children the articular symptoms may be so slight that the attack is classed under the vague heading of ephemeral fever or febricula. In such cases the joints should be carefully examined, the presence of unusual sweating noted, and the occurrence of an endocardial or other serous membrane inflammation sedulously watched for.

The acute arthritis of nursing infants is generally limited to one large joint (knee or hip), becomes rapidly purulent and presents severe constitutional disturbances. Moreover, it is commonly associated with pyemia, or a gonorrheal ophthalmia or vaginitis.

Acute osteomyelitis is usually located in the epiphysis rather than in the joint, and the greater severity of both local and constitutional symptoms will aid in separating it from monarticular rheumatic fever.

2. Pyemia with single or multiple arthritis is, as a rule, readily distinguished from rheumatic fever. The chills, the irregularly high temperature, the greater prostration, the slight jaundice, the fact that the joint symptoms do not shift from one articulation to another, and that the joint as a rule proceeds to suppuration, together with the finding of the primary purulent focus, serve to declare the existence of pyemia rather than rheumatism.

3. The secondary arthritides of the acute specific infections, of which gonorrheal arthritis is a type, are as a rule easily separated from acute rheumatic fever, provided that their true pathological character as post-febrile manifestations of the causative toxemias is borne in mind, and that a diagnosis of rheumatism is not made simply because there is redness and swelling of one or more articulations. Thus, in gonorrheal arthritis there is a history of an immediately preceding gonorrhea, the affection is frequently monarticular from the beginning, often involving the knee, the constitutional symptoms are generally not pronounced in comparison with the local signs, it is extremely intractable to any method, and the therapeutic test affords negative results.

4. Scurvy in an infant, if the gums have not become spongy, may give rise to some doubt. Ordinarily fever is absent and its presence points rather toward rheumatism than scorbutus. Nevertheless in a personal case both ankles were somewhat reddened and swollen, presenting an appearance identical with that of rheumatism, and there was moderate fever. The gums were unaffected. The appearance of ecchymotic spots on the second day, together with the failure of the salicylates to relieve the symptoms,

led to a correct diagnosis, and the administration of orange juice caused an extremely rapid disappearance of the joint symptoms and excessive tenderness.

The joint effusions of hemophilia and the arthritic forms of purpura are to be separated from rheumatism by the ecchymoses, edemas, and various hemorrhages which characterize them.

5. Acute gout, if, as sometimes happens, several of the joints are affected, may be mistaken for acute rheumatic fever; or the latter, if monarticular, may closely simulate gout. But gout usually occurs later in life than rheumatic fever, tophi may be found, decided fever and sweating are not common, and the local symptoms with the tense, shining, highly reddened skin, are out of proportion to the constitutional disturbance.

6. The more acute forms of arthritis deformans may be confused with rheumatic fever, but the greater elevation of the temperature, the more marked redness and pain, and the presence of serous membrane inflammations will serve to rule out arthritis deformans.

B. Chronic Articular Rheumatism.—There should rarely be any difficulty in making a diagnosis of chronic rheumatism. The cardinal symptoms are the pain and stiffness of the joints, most severe after rest and moderating after exercise, with slight or no deforming changes.

1. Arthritis Deformans.—Doubtless the most common error lies in mistaking the more chronic and general forms of arthritis deformans for chronic rheumatism. In the latter, however, there is a distinctive absence of the osteopic deformity, thickening and anchylosis of the joints, the peculiar lateral ulnar deflection of the fingers, and the atrophied and glossy skin of the smaller extremities, which characterize arthritis deformans. But the early stages of arthritis deformans resemble chronic rheumatism so closely that it is practically impossible to distinguish between them until the supervention of the characteristic articular deformations. It is easy to enumerate the differential points between two or more diseases only to find, when facing the individual case, that the neat list of distinctive differences which seemed so definite and satisfactory at the study table is not sufficient to determine a positive diagnosis.

2. Chronic Gout.—Chronic rheumatism may also be confounded with gout, but the latter involves the smaller rather than the larger articulations, and chalk stones, if not abundantly present, can often be found by a sufficiently careful search. Moreover, chronic rheumatism is not associated so commonly as is gout with general arteriosclerosis and the symptoms of contracted kidney.

C. Muscular Rheumatism.—There is rarely any difficulty in the diagnosis of the various forms of muscular rheumatism. The usual suddenness of its onset, the characteristic exacerbation of the pain upon contraction of the affected muscles, and the almost invarible absence of fever form a distinctive clinical picture. Pleurodynia will, of course, require an examination of the chest to discriminate it with certainty from a pleurisy.

By way of summary it may be said that there are precisely three ailments which, according to the latest definitions, can properly be called rheumatism, namely, rheumatic fever, chronic articular rheumatism, and muscular rheumatism; that rheumatic fever is without much doubt an infectious disease; that the other two varieties may also prove to be infectious; and that while there are many maladies which present arthritic symptoms resembling those of rheumatism, mistakes in diagnosis are not common, but in occasional instances are unavoidable.

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THE BACTERIOLOGY OF ACUTE RHEUMATISM.

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Read before the Medical Society of the County of Kings.

The President has assigned this subject to me, and if my remarks are brief it must be attributed to the fact that at present little is known of the subject and that it must, at present, be considered a matter still under investigation. In the *Annales de l'Institut Pasteur* for November, 1897, M. Pierre Achalme states that he described for the first time in 1891 an anaerobic bacterium found in a state of purity at the autopsy of a man who had died of cerebral rheumatism.

Up to the present time this organism has been sought for by other observers, and in nine cases with positive results. It has been isolated twice at autopsies, four times it has been found in the blood from the veins of the arm of living patients, and in two other cases it has been found associated with micrococci.

Some blood is drawn from one of the veins at the bend of the elbow under rigid aseptic precautions, and is sown in tubes of sterile milk or milk mixed with bouillon. Eight or ten days' incubation are required to secure a good growth of the organism; every precaution being taken to exclude the air. The bacillus thus obtained has the appearance of a large rod, resembling the B. anthracis. It varies in length according to the medium used in its cultivation. It is readily stained by the usual anilin dyes, and is not discolorized by Gram's method. (In this respect also resembling B. anthracis.) According to Achalme, the bacillus is exquisitely anaerobic, and liquid media much better suited to its development than solids. Bouillon, especially that made from horse meat, is an excellent medium, provided it is deprived of air. In this medium at first bubbles of gas are seen, then a uniform turbidity occurs, after which a whitish deposit is formed. Sown in milk, this bacillus causes coagulation in from twelve to fifteen hours and develops gas to such a degree that the tubes may burst.

He states that it is difficult to obtain cultures on solid media and the colonies are not recognizable except under the microscope. Cultures on solid media have the advantage of giving to the bacillus a more regular form than that obtained on liquids.

An interesting peculiarity is that sodium salicylate added to the medium hinders the development of the cultures and that the medium in which this bacillus is grown tends rapidly to become acid and unable to preserve the vitality of the organisms. Their vitality may be prolonged by the alkalization of the medium by the addition of calcium carbonate.

Achalme's experiments were most interesting on guinea-pigs. When such an animal was inoculated in the thigh, it died in from twenty to thirty-six hours, presenting locally a large gelatiniform edema filled with a reddish serum, and some necrosis of the muscles. The pericardium contains an abundant serous exudate and occasionally false membrane. The pleura presents the same condition if the inoculation is made near the thorax.

In these exudations the specific bacillus is found. The injection of the edema fluid from one pig to another causes death in ten hours from subacute septicemia. Rats are less susceptible than guinea-pigs, dogs always remain refractory, and rabbits require large injections.

By injecting the serous exudate from the guinea-pig directly into a rabbit without passing it through cultures, M. Thiroloix was able to cause in the latter animal a heart disease which closely resembled the cardiac complication of rheumatism in the human subject. This observer (*Comptes Rendus Soc. de Biologie,* 268-884, 1897) injected guinea-pigs with cultures of the bacillus grown anaerobically in fluid human blood-serum, and after the death of the animal he inoculated rabbits directly from the edema fluid of the guinea-pig, the inoculations being made into the ear vein, the pleura, the hip-joint, and the muscles of the thigh. Several hours after the injection the heart becomes irregular, there is dyspnœa, and rapid emaciation. The animal usually dies in from two to seven days.

At the autopsy there is seen a mitral and tricuspid endocarditis, the bases of the valves are swollen and congested, and cultures from the interior of the valves reveal the presence of the bacillus of Achalme. In some cases the endocarditis was accompanied by the formation of a white thrombus adhering closely to the base of the valve. The myocardium was hypertrophied, especially in those animals which survived six or seven days.

The pericardium was congested, showed punctiform ecchymoses, and a fibrinous exudate was usually seen. Spontaneous articular lesions were not observed, but injections into the hip-joint produced characteristic lesions, and also mycosis of the muscles surrounding the joint.

The blood and other organs contained the bacillus, but the lesions were confined to the serous membranes and the heart. It was never pyogenic. Sawtschenko (*Russ. Arch. f. Path Klin. Med. u. Bakt.,* Bd. 5, Heft. 5, p. 558, 1898) investigated six cases of acute rheumatism, making bacterial examinations of the blood. In four of these cases the bacillus of Achalme was found in pure culture, once it was associated with streptococci, and once the result was negative. The bacillus was the size of anthrax, had an end spore like tetanus, and was not decolorized by the method of Gram.

It was an obligate anaerobe. In mixed cultures it was isolated by growing it in lactose bouillon anaerobically for three generations. It breaks up the lactose rapidly and forms a large proportion of gas. This bacillus grew very virulent in sugar bouillon and .25 c.c. killed a guinea-pig or a pigeon without fail. Subcutaneous injections into guinea-pigs produced hemorrhagic edema with necrosis of the tissues. The edema was extensive and the exudate was rich in the bacilli. This observer succeeded in immunizing animals against subcutaneous injections by the intravenous injections of filtered edema fluid. The serum of rheumatics mixed with a bouillon culture of this bacillus did not produce the Widal reaction, but caused the appearance of "Kugelformen" similar to the phenomenon produced by Pfeiffer with cholera vibrio.

Others have also made observations which would tend to confirm the work of Achalme; among these may be mentioned beside Thiroloix, Triboulet, Coyon and Riva.

So far as I know, little has been done in this country regarding the bacteriology of rheumatism, and the literature is exceedingly limited. The technic required is very difficult, and results can be expected but slowly. There has been a tendency for some time to place rheumatism among the bacterial diseases, and some of the later writers are classifying it among the infectious diseases.

ETIOLOGICAL FACTORS IN RHEUMATISM.

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All writers at the present day class acute articular rheumatism among the infectious diseases, and all are likewise of the opinion that a bacterium introduced into the system from without is the logical exciting cause of the disease. As to the micro-organism which is actually responsible for its production there seems to be no positive knowledge.

We are all familiar with the fact that this disease, like many others, presents for our consideration predisposing as well as exciting causes. Among the predisposing causes may be mentioned without special elaboration: I. *Season of the year,* the winter months being the time during which the greatest number of cases are usually seen. II. *Climate,* a changeable, damp, cold climate seeming to favor the production of the disease, rather than a climate which is simply cold without especial dampness, or where the cold is more or less constant. III. *Age,* its being commonly noticed in young adult life from twenty to forty years of age. IV. *Sex,* common in the male sex, due doubtless to exposure consequent upon occupation. V. *Occupation,* those persons who work in the open air and exposed to changes in the weather, as coachmen, 'longshoremen, sailors, etc. VI. *Catching cold* was formerly regarded as an exciting cause, but is actually a predisposing cause, for it does not really produce the disease. VII. *Heredity* is unquestionably an influence in the production of the disease. VIII. *Conditions of ill health,* particularly digestive disorders. IX. In many cases there is found to have been *a primary lesion,* as a wound, which preceded the appearance of the joint inflammation in rheumatism, and which has been supposed to be the avenue of entrance of micro-organisms into the system and causing the disease. Rheumatism has been noted to follow frequently *attacks of tonsillitis,* and a direct relation between the two conditions has been suggested. X. Those patients who are suffering from *chronic endocarditis* seem to be particularly prone to develop attacks of acute rheumatism. XI. *Choreic children* often develop rheumatism. XII. *Excessive fatigue* with the inordinate use of the muscles of the limbs is placed among the causes by Lyman, as is the *excessive use of alcohol* by depressing the general health of the individual. *Alcoholic abuses* are an important causation of cerebral rheumatism.

The above classification of the causes of acute rheumatism is substantially that foun in Anders' "Practice."

Diet would seem to exert some influence in the production of the disease, for the taking in of foods containing starch and sugar is said to increase the tendency to rheumatism.

Certain diseases seem to have an etiological relationship. In the desquamative state of scarlet fever a mild form of rheumatism is sometimes observed.

An article by Graham in "Wood's Reference Handbook," upon the probable nature of the poison which causes rheumatism, refers to some of the theories which have been advanced.

I. *Prout's theory* that lactic acid is the foreign constituent in the blood which causes the local inflammation.

II. *The malarial theory,* in which it is claimed that the lactic acid found in the blood is rather a result of the disease than the cause of it. It is claimed that there exists a very close relation between rheumatism and the malarial fevers, the essential cause being a miasm from without entering the system.

III. *The endocarditis theory,* namely, that micro-organisms enter the system through the sweat glands, are carried to the heart, produce endocarditis, from which source emboli are sent to the joints, inflame them secondarily.

IV. *The nerve theory,* in which the exciting cause is said to be cold or dampness acting upon the skin and transmitted to the trophic centers by the afferent nerves, the joints being affected through the vasomotor system.

This writer sums the matter up by stating that a combination of these theories may suitably be considered as furnishing the correct view as to the nature of rheumatism.

Joint disease, simple or multiple, which occurs after scarlet fever, gonorrhea, or in connection with puerperal or septic diseases, as well as recent cases of secondary syphilis, have nothing to do with genuine acute rheumatism, according to Strumpell.

We not infrequently hear that *uric acid* produces rheumatism. Tyson stated in a paper read before the Association of American Physicians in Washington, in May, 1898, as follows: "At the present day acute rheumatism is generally acknowledged to be an acute infectious disease, and I am unable to recall from my own experience, at least, any influence of the uric-acid diathesis on its causation."

That this disease is properly classed among the infectious diseases is shown by its resemblance in many respects to other infectious conditions. Its invasion is abrupt, not infrequently beginning with a decided chill or chilly sensations, followed by fever, multiple joint inflammation, sweats, and other phenomena associated with diseases consequent upon the introduction into the system of definite micro-organisms. It resembles pyemia very closely, and Osler calls attention to many striking points of resemblance between rheumatism and septic contamination. Epidemics of the disease have been noted by many observers. Its tendency to relapse, and its secondary influence in the production of endocarditis, pericarditis, and other serous inflammations would also seem to argue in favor of its infectious nature.

There is nothing constant in the pathological findings in acute rheumatism. Not many uncomplicated cases come to the autopsy table, and consequently opportunities for study of the changes in the joints are infrequent. In the main, it may be said that we find the usual products of inflammation. The effusion in the joints is usually serous and contains fibrin. We rarely see pus in the joint cavity.

Concerning the bacteriologic factors in this disease it may be said that many observations have been made during the past eight or ten years, but nothing positive has been determined as to any specific organism being the actual cause of the disease.

Morgan, in the *Philadelphia Medical Journal* of January 13, 1900, in an article on "Cerebral Rheumatism," gives a short review of some of the bacteriologic studies in the past few years.

He quotes the observations of Sahli, in 1892, in which cultures of staphylococcus pyogenes citreus were obtained from the blood, synovial membranes of the affected joints, and the exudate upon the endocardium and pericardium.

The experiments of Singer in 1895 and in 1898 are also referred to as follows: "Singer, in 1895, reported that in 17 cases of the disease investigated by him, he found the staphylococcus pyogenes albus in the urine in 8, and in the blood in 2; in 3 cases the streptococcus pyogenes was found in the urine alone, and in 2 cases in association with the staphylococcus pyogenes albus; the micro-organisms were found in large numbers during the acute stage of the disease, and disappeared when convalescence was established." The work of Singer, in 1898, is mentioned by Morgan as follows: "Singer, in a recent and very complete monograph upon the etiology of this disease, states that the bacteria found in his investigations, in the blood, urine, the synovial fluid, and the exudate of the various complications, were principally the staphylococcus pyogenes and the streptococcus pyogenes. His blood examinations gave 15 per cent. of positive culture results; and those of the synovial fluid 9.5 per cent. In the latter the staphylococcus pyogenes albus was twice found and was also present in the blood and urine. He says that the symptomatology of acute rheumatism corresponds very closely to that of various affections due to infection by the pus bacteria; that a close relation exists between this disease and osteomyelitis —which he characterizes as a "sister affection—and that both are varieties of pyemia in the broadest sense of the word; that they are constitutional infectious processes, caused by the propagation of bacteria—staphylococci and streptococci—which gain access to all parts of the body by means of the circulation; that in the majority of the cases the infection takes place through the mucous membranes of the throat, and, possibly, the tonsils—which he regards as protective organs, like the lymphatic glands; that the infection is of a milder character than that of pyemia, as the bacteria lose some of their virulence in passing through these tissues."

Sternberg is quoted in this article, and the following statement made: "Sternberg states that the symptoms and complications of acute rheumatism indicate that it is an infectious disease, and that the researches of bacteriologists give some support to this view." He further says: "If, as appears probable, acute rheumatism is due to infection by the ordinary pus cocci we may suppose that this course, in consequence of a loss of the natural immunity which in a normal condition of health protects man from an invasion by these micrococci, which are constantly present—especially the staphylococcus pyogenes albus—upon the surface of the body and upon the mucous membranes. In my work on 'Immunity, Protective Inoculations, and Serum-therapy,' 1895, the following conclusion is reached with reference to the explanation of natural immunity: 'The experimental evidence submitted, considered in connection with the extensive literature relating to phagocytosis, leads us to the conclusion that natural immunity is due to a germicidal substance present in the blood-serum which has its origin—chiefly, at least—in the leucocytes; and is soluble only in an alkaline medium. Now in acute rheumatism there is an excess of acid in the system, and it seems quite probable that as a result of this, the natural immunity against infection by these micrococci is neutralized.' "

There seems to be a tendency on the part of many recent observers to regard rheumatism as an infectious disease, caused by the growth in the body of the ordinary pus organisms.

To quote still further from the paper by Morgan: "If this explanation (pus cocci causing rheumatism) be accepted tentatively—and it is to be hoped that positive proof of its correctness will be produced in the near future—the hyperpyrexia, and cerebral, cardiac, and other complications of the disease are easily and satisfactorily explained, being ascribed, as in case of the manifestations of other infectious diseases, to the toxic effects of products elaborated by the pathogenic bacteria, these products reaching all parts of the body through the media of the circulation."

Antistreptococcic serum has been used a number of times by French observers in the treatment of acute rheumatism, with varying results, Boucheron reporting six cases in which the results were good. The number of cases, however, in which this line of treatment has been pursued is so small as to be of little value as a test of the treatment.

In conclusion, it may be safely assumed that acute rheumatism is properly regarded as an infectious disease, and that it is presumably due to a micro-organism introduced into the body from without. Until more conclusive results of careful bacteriological investigation shall have been reported, we will have to be content with our somewhat unsatisfactory knowledge as to its actual etiology.

IS THERE A SURGICAL SIDE TO ACUTE RHEUMATISM?

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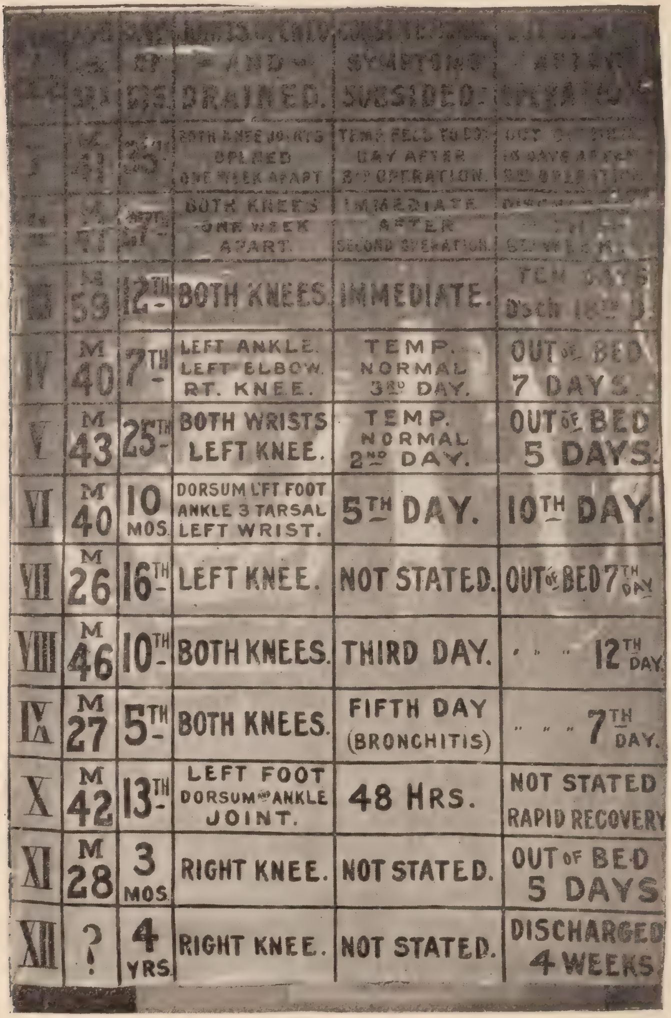
For many years writers on the subject of acute rheumatic fever have assigned it a place among the so-called constitutional diseases; that is to say, diseases which originate from within. Starting on this hypothesis a number of different theories have been advanced in explanation of the morbid process. Thus there is Prout's lactic acid theory, Latham's hyperoxidation theory, and the doctrine that the disease is of nervous origin, first propounded by J. K. Mitchell in 1831, later by Froriep in '43, Gull in '58, Weir Mitchell in '64, and Charcot in '72. It is unnecessary to state the different objections to these divers speculations. None of them conclusively explains the phenomena of acute rheumatism. In 1871, Heuter advanced the theory that the disease was the result of an infection from without, in which he was supported by Recklinghausen and Klebs. The evidence was not conclusive and the theory was probably based on the analogy which the inflammations of rheumatism bore to other and similar processes known to be of infective origin.

In 1891, Pierre Achalme observed a bacillus resembling anthrax in the blood of patients suffering from the disease and in 1897 he and Thiroloix published a series of cases in which the same organism had been observed. The cases in all number 12, 9 of Achalme's and 3 of the latter writer. Of Achalme's cases, 2 were mixed infections, a coccus being found in company with the bacillus, the remaining 9, together with all of Thiroloix's cases were positive, in so far as in these was found the bacillus alone. This has been named the B. Achalme-Thiroloix. These investigators seem to have fulfilled Koch's law, in that they have observed the organism in individuals sick of the disease. They have cultivated it in artificial media and have succeeded in producing a disease in animals in many respects similar, if not identical with acute rheumatism, by inoculation with pure cultures of the organism. It may be added here that the recent work of Anders, just issued by Saunders, places rheumatism in the group of infectious diseases, although the statement is made that we are not yet in a position to state positively just what germ is responsible for the disorder. Here I wish to point out the remarkable resemblance that the disease undoubtedly bears to other inflammations, notably of serous membranes, which we know to be the result of microbic infection. The joint affection known as gonorrheal rheumatism is certainly caused by the gonococcus. White swellings of joints are now known to be caused by the tubercle bacillus, and those inflammations of joints which are secondary to suppurative conditions elsewhere are known to be caused by the organism of suppuration. What acute inflammations of serous structures are there to-day which occur independent of infections from without? There are none, if we exclude rheumatism. In the past ten years all so-called pathogenic inflammations have been shown to be the result of microbic infection. Now let us glance for a moment at the inflammations which occur in the course of acute rheumatism. We have arachnitis, endocarditis, pericarditis, the so-called rheumatic peritonitis, rheumatic pleurisy, phlebitis, and inflammations of joints. No serous structure escapes. Reasoning by analogy, the argument is very strong in favor of the germ theory, for if all other inflammations have been proven of microbic origin, the probability becomes almost a certainty that these several inflammations which occur in rheumatism are also microbic. The clinical course of the disease is strongly suggestive of a similar origin, the initial chill, the hyperpyrexia, the toxemia; all these symptoms are exactly those that we should expect in a mycosis. Another significant fact connected with the invasion of the disease is that it is very frequently preceded by an attack of tonsillitis. To quote Professor Anders: "The frequency with which an attack of tonsillitis precedes rheumatism almost indicates a pathological relation between the two diseases." In support of this he quotes Cheadle, Wade, and Gerhardt. To how many diseases caused by germs have the tonsils been the open doors? It can hardly be doubted then that clinically acute rheumatic fever bears at least a close resemblance to known bacterial diseases. The general tendency of writers on clinical medicine at present is to classify it among the acute infectious diseases. If, then, acute rheumatic fever be an infection and not a dyscrasia, we may now inquire with some show of emphasis whether, indeed, it may not have its surgical aspects. Let us for a moment consider the relation of surgery to other diseases affecting the joints, which are of undoubted microbic origin. These may be divided into two classes. Those which always require the opening of the affected joints, with drainage, and those which sometimes require this procedure. To the first class belong all suppurative affections. No one would question for a moment the propriety of free incision and drainage of a joint which contained pus. On the other hand, there are two other infections which do not always require the opening of the affected joint, tubercular and gonorrheal diseases. Operative treatment will be very frequently required in the first of these, much less frequently in the second. That they both require incision and drainage, sometimes, no one will question who is familiar with their course. Let us now inquire why the first class require incision and drainage uniformly. There are two reasons, one dealing with local conditions, the other with constitutional. If a joint which is suppurating is not promptly drained, it loses its identity as a joint from rapid destruction of the joint surfaces. This is not all, however. The general system absorbs the products of bacterial life and existence is threatened by toxemia. Thus we have a double reason for surgical interference. In neither of the other types, as a rule, do we have the element of sepsis so largely entering into the problem, and therefore we are enabled to use other measures for the relief of the endangered structures awaiting the reparative powers of Nature, which, with our assistance, often bring about a cure. This is because the fluid in the joints is of a mild degree of toxicity, and the constitutional symptoms resulting from absorption equally mild. There is some reason for stating that acute rheumatic fever, or, as O'Conor calls it, acute infectious arthritis, partakes of the characteristics of both the types mentioned. Where there is much effusion in the joints the toxic products absorbed therefrom are responsible for the serous constitutional symptoms, which, however, disappear rapidly after drainage. Of this evidence will be given later. Not infrequently the toxemia is less prominent, particularly in the so-called chronic cases, but the injury to the joints' surfaces greater. That these two types of the disease are not the result of an arbitrary division clinicians, I believe, will grant. There may then be two distinct reasons for surgical intervention in rheumatism, an obstinate arthritis with effusion, which does not readily yield to medical treatment, which at the same time intoxicates the system and furnishes a nidus of incubation for reinfection, thus prolonging the disease. Or, again, the disease, by its chronicity, may be endangering the usefulness of the joints affected, and threatening their structure without great systematic disturbance. A third reason for drainage may exist if we are ever in a position to show that prompt drainage in moderate cases diminishes the risk of heart lesions out of proportion to the risk of the operation itself. These conclusions, however, you will say are based on purely theoretical grounds and have no basis, in fact. It is quite true, first, that we are not at present absolutely sure of the bacteriological facts and also that as far as clinical evidence goes, we have but a few cases to quote which show that incision and drainage of rheumatic joints may be useful and safe. The same charge might, however, be brought against any new treatment, which was a shock to preconceived notions. It has been brought against surgical procedures, which now have a well recognized place in our art. To justify a new departure of this sort one must show that it is based on sound principles, and that the disease is not amenable to milder measures or that the new treatment will, in the long run, diminish the general risk incidental to the disease under present modes of treatment. Whether the writer has laid a reasonable basis for the suggestion of surgical intervention we must leave to those who hear him. There is, however, some clinical evidence going to show that in certain cases of acute rheumatism surgery may well have place. There is only one writer, so far as I can find, who has had any experience with the measures proposed, namely, O'Conor, of Buenos Ayres. I have communicated with seven of the best-known surgeons of this country, outside our own city, and have received replies from all, stating that they have had no experience in the surgery of acute rheumatism. To O'Conor's writings, therefore, we must look for our clinical facts. The cases on which he has operated are 12 in number. They may all be found in the *Annals of Surgery* for February, 1898, and April, 1899. He has published, also, in several other journals, but after careful search I have been unable to find anything more than is contained in the two numbers of the journal mentioned. To them I refer those of you who care to make a study of his cases, for it will be impossible for me to give more than a brief summary of his work to-night. O'Conor's treatment of rheumatism may be summed up in two words, incision and drainage. Distended joints are opened, washed out with a solution of biniodide of mercury, 1-5000, a gauze drain is then introduced, which is removed at the end of forty-eight hours. The joint is then allowed to close. Where there has been much periarticular inflammation and swelling, particularly in the feet and about the wrists, O'Conor makes free incisions into the swollen parts, exactly as one does in a case of cellulitis. He states that the knee-joint is the only one in which he has found fluid, and in this uniformly. In the other joints he has found no fluid and the chief infection seems to have been in the periarticular tissues. From these, when incised, a watery fluid has exuded. I have tabulated O'Conor's twelve cases, with reference to the following points, namely, the day of disease on which operation was done, joints which were opened and drained, period after operation at which the constitutional symptoms subsided, and the day on which patient rose from bed. You will see, if you inspect the tabulated chart, that in all the cases as soon as complete drainage was established, the constitutional symptoms subsided with remarkable rapidity. There are in the table three chronic cases to which I wish to call your attention first. One of these, number 12 in the table, had been ill for four years; another, number 6, ten months, and number 11, three months. Case number 12 was one of chronic rheumatic effusion in the right knee, which had resisted all treatment, up to the date of operation. The affected joint was opened and drained after the manner described, and the man was discharged cured, with a normal joint in four weeks' time. In the case of ten months' standing, the patient had been unable to walk for five months, carried his arm in a sling and had a careworn appearance. On the fifth day after operation all constitutional symptoms had subsided and movements in the affected joints were free and painless. Patient was discharged on the twenty-fourth day. Before leaving the hospital he ran 90 yards on his bare feet on a tiled floor, without limp or pain. Case 11 had been ill three months under the usual treatment without improvement, and on admission was pale, thin, and of a worn-out appearance. Temperature normal, but right knee was distended, stiff and painful. Metatarso-phalangeal joints red, swollen, and painful. Arthrotomy of right knee done and three ounces of turbid, flaky fluid removed. Swellings about toe-joints incised, serum escaped, nothing abnormal in joint. On the following day the knee had resumed its normal contour, and slight active motion was unaccompanied by pain. On the fifth day he was allowed out of bed, having normal range of motion. The history of the three chronic cases may be summarized as follows:



[illegible]	[illegible] SEX.	[illegible] OF DIS.	[illegible] AND DRAINED.	[illegible] SYMPTOMS SUBSIDED.	[illegible] AFTER OPERATION.
I	M 41	25th	BOTH KNEE JOINTS OPENED ONE WEEK APART	TEMP. FELL TO [illegible] DAY AFTER 3RD OPERATION.	OUT OF BED 10 DAYS AFTER 3RD OPERATION.
II	M 41	[illegible]	BOTH KNEES ONE WEEK APART.	IMMEDIATE AFTER SECOND OPERATION.	DISCH [illegible] 5TH WEEK.
III	M 59	12th	BOTH KNEES.	IMMEDIATE.	TEN DAYS Dsch 18th D.
IV	M 40	7th	LEFT ANKLE. LEFT ELBOW. RT. KNEE.	TEMP. NORMAL 3RD DAY.	OUT OF BED 7 DAYS.
V	M 43	25th	BOTH WRISTS LEFT KNEE.	TEMP. NORMAL 2ND DAY.	OUT OF BED 5 DAYS.
VI	M 40	10 MOS.	DORSUM L'FT FOOT ANKLE 3 TARSAL LEFT WRIST.	5TH DAY.	10TH DAY.
VII	M 26	16th	LEFT KNEE.	NOT STATED.	OUT OF BED 7TH DAY
VIII	M 46	10th	BOTH KNEES.	THIRD DAY.	" " " 12TH DAY.
IX	M 27	5th	BOTH KNEES.	FIFTH DAY (BRONCHITIS)	" " " 7TH DAY.
X	M 42	13th	LEFT FOOT DORSUM AND ANKLE JOINT.	48 HRS.	NOT STATED RAPID RECOVERY
XI	M 28	3 MOS.	RIGHT KNEE.	NOT STATED.	OUT OF BED 5 DAYS
XII	?	4 YRS.	RIGHT KNEE.	NOT STATED.	DISCHARGED 4 WEEKS

They had been long under medical treatment, without benefit; were all helpless and confined to their beds. Immediate improvement followed operation, with prompt restoration of function to affected joints, all of the patients being discharged cured within the month. Of the acute cases I wish to call your attention to numbers 1, 2 and 5, types of specially severe attacks which had obstinately resisted all treatment and were going from bad to worse at the time of operation, the first and second cases being so ill that O'Conor did not dare to do a double arthrotomy, but opened the joints at intervals of a week. Of the first case he says: "Pulse weak and compressible; fever continuous; very emaciated; lay like a log in bed, and had lost all desire for nourishment; knee-joints distended and painful; twinges in left elbow; had to be nourished by enemata. I now found myself placed in a very unenviable position, for I believed that surgery could save him, but that the anesthetic might kill him. However, I decided that death on the operative table was preferable to the slow, torturing process, and on July 17th ether was administered, a two-inch incision made into right knee-joint, four ounces of greenish, turbid flocculent serum, with many large masses of lymph, were removed. Irrigation, with 1 to 5000 biniodide lotion and gauze drain inserted. Owing to his corpse-like appearance I shrunk from attacking the left knee. He was now put to bed and stimulated. Third day, joint dry, swelling had disappeared, no pain on palpation. Drain left out. Sixth day, joint normal in contour; left knee bad as ever. By the sixth day the constitutional symptoms as marked as before, and it was evident that the only way to avoid a fatal issue was by operating at once. One week after first operation the left knee was opened and six ounces of greenish, turbid serum and many large lymph flakes were removed. One of these masses was found becoming organized; numerous blood-vessels having formed in it." You will see by the chart that the temperature fell to 99° on the following day, all the constitutional symptoms subsiding, not to reappear. Patient was out of bed sixteen days after the second operation, and was discharged cured after the fifth week. Convalescence was slow, owing to his intense anemia. O'Conor's deductions from this case are as follows: (*a*) That arthrotomy had an immediate curative effect on the arthritis of right knee. (*b*) The delay in operating on the left one allowed the inflammation and edema to assume a chronic form. (*c*) That this arthritis was amenable to surgical treatment. (*d*) That the general toxemia disappeared whenever the affected joints were opened; the morbid material evacuated and drainage provided. (*e*) No patient, however ill, suffering from acute infective arthritis, should be permitted to die without giving him a surgical chance. The history of cases 2 and 5 were very similar. Patients had been on the usual treatment without improvement, were emaciating rapidly, and evidently very ill. Improvement was immediate after the second operation in case 2; that is to say, after both affected joints were drained. In case 5 the temperature was normal on the second day. To the history of the other cases I shall not refer, beyond the brief sketch which is given in the table before you. In the light of this series of cases I shall present two propositions for your consideration; one having reference to very acute cases, which under medical treatment are going from bad to worse, where life is threatened. Cases 1, 2 and 5 illustrate this class. If we assume it reasonably certain that rheumatism is an acute infectious arthritis and not a dyscrasia in the light afforded us by the cases which have been cited, we are justified in adopting O'Conor's procedure in patients which have resisted medical treatment and are in danger of their lives. Let us examine this proposition. We grant that to open the normal knee-joint is a procedure of some risk. No surgeon lightly undertakes it. At the same time, if the joint be filled with a fluid whose presence is a source of danger and infection, no surgeon would hesitate to operate. In all the cases of distended knee-joints operated upon by O'Conor he found them filled with turbid fluid and flocculi too large to be evacuated through an aspirating needle. Immediate improvement followed incision and drainage.

Will the operation increase the immediate risk to the patient? I believe not, if nitrous-oxide be used as the anesthetic, and not ether nor chloroform.

Will it increase the risk to the joint? Not nearly as much as the operation of suturing a fractured patella, which is to-day an accepted operation in surgery. It is always good surgery to rid a joint of septic and irritating fluid, and that the fluid which accumulates in the distended joints of acute rheumatism and in the periarticular structures is both, these cases seem to prove. My second proposition refers to chronic cases, where the individual has been deprived of his ability to support himself by the disability produced by the disease. It is to be understood that chronic deforming rheumatism is not included in this discussion. In these cases the immediate risk of operation need not be considered, and the danger to the joint is certainly no greater than to a joint which is the subject of gonorrheal rheumatism, and such joints are drained frequently by surgeons all over the world. It is to be remembered that these people are deprived by their disease of the opportunity to earn their living, and if surgery is entitled to interfere in tubercular and gonorrheal joints, when intractable, is it not equally entitled to a trial in joints which are just as much disabled?

Can this treatment be extended to all cases of acute rheumatism? O'Conor does so extend it, and says that he has abandoned medication and opened the affected joints as soon as the nature of the disease is evident, not waiting for heart mischief to ensue before operating. This is a proposition in which I cannot concur any more than I should be willing to open every tubercular joint which came to me, until it was demonstrated to be an absolute necessity. Most cases of acute rheumatism are amenable to treatment, and no case of any disease whatever should be submitted to operation unless it can be shown that operation is the patient's best chance and that it is more dangerous to wait than to operate. It is certain that if we were prepared to open every distended joint in all cases of acute rheumatism without waiting for the exhibition of proper therapeutic measures, we should now and then meet with disaster which might have been avoided, for it is certain that in the operative treatment of cases of fractured patella misfortunes have happened to the best surgeons. If we reserve operative treatment for those cases which, as I have pointed out, have defied medical care, where life is threatened, we shall not be assuming a risk out of proportion to the benefits which we expect to gain, and of the chronic cases it may be said that it is lawful to assume considerable risk in order to restore a man's earning capacity, and prevent him from becoming a burden upon the community. Another element, however, must enter into our calculations in those cases in which the heart is threatened. If O'Conor be right, it may be expedient, even early in a relatively mild case, when there is fluid in the joints, and the heart is threatened, to open the joints and remove a septic focus which is threatening to extend itself to the endo- or pericardium. In such cases it is not the joints which concern us. These will recover their function at a longer or shorter interval. If, however, the valvular strictures of the heart become involved we are face to face with grave peril and a crisis which, if not promptly met, may result in death, or, at the least, a life of crippled activity and greatly limited usefulness. One might be justified in risking something to avert so great a disaster. The cases which I have cited are food for reflection. The prudent surgeon will give them careful thought. He will neither rush in to operate where medicine may give relief nor refuse this aid where medicine has failed and the patient is going from bad to worse. This is a new departure we are considering, and it behooves us to walk with circumspection, proving all things, holding fast to that which is good, but avoiding rashness and a precipitate opinion.

THERMAEROTHERAPY IN RHEUMATIC AFFECTIONS.

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Careful observation as Medical Director of the Sprague Hot-Air Hospital during the last year leads me to conclude that hot, dry air is a very valuable adjunct in the treatment of numerous diseases and is especially indicated in rheumatism and gout. The disadvantages in the application of hot dry air, such as burns, owing to the rapid rise in temperature, defective circulation, or contact with metallic parts; heat stroke, due to saturation of the atmosphere in cabinets, and the inability to maintain a steady temperature for a length of time, have been overcome in the apparatus used by me.

Before describing the treatment I wish to call your attention to the following points which have impressed me as necessary to remember in order to obtain beneficial results and to avoid accidents.

Constant circulation, dryness, and a gradually increasing temperature of the air in the apparatus from the beginning to the end of a treatment; the head should never be put into the hot-air chamber; the body must be kept from contact with any good heat conducting material of the apparatus; the parts under treatment must be wiped free from accumulated moisture as soon as it collects, and they must not be covered with cloths until the patient is unable to bear the heat without; and when the cloths are applied they should be loose, with as few folds as possible. The temperature must never be over 380° F.

The constant circulating air naturally causes more rapid evaporation of the sweat from the surface of the body by carrying off the moisture-laden atmosphere, and gives slight mechanical stimulation by its motion. The action of comparatively dry air is stimulating, whereas that of moist air is enervating. This is demonstrated every summer by the sufferings of humanity on humid days, even when the temperature is not very high; and their comparative comfort on very warm days with a slight breeze and dry air.

The explanation, as is well known, depends upon the ability of our skins to better govern the temperature of our bodies by free evaporation of perspiration on warm dry days, especially when the air is in constant motion. A sudden rise in temperature is very distressing, as it does not give Nature a chance to adjust herself properly to the new conditions; therefore, it is necessary in applying hot air to take this into consideration. By keeping the head outside of the apparatus we are enabled to subject the body or limbs to much higher temperatures and internal congestions are more apt to be relieved, as the air inhaled is much cooler than that surrounding the exposed surfaces.

The advantage of keeping the parts under treatment from contact with conductors of heat is very apparent. To obtain beneficial results the temperature in most cases must be from 240° to 280° F. in a body, and 290° to 380° F. in a limb treatment. Occasionally, a patient is found unable to bear such temperatures at the first treatment, but he is able to do so after a few trials. When the thermometer registers over 380° F., burns are apt to occur in spite of all precautions.

If sweat accumulates on the surface of the body, it is apt to scald the patient at a temperature of 125° F. or over. The cloths covering the treated parts must be smooth, if possible, as any folds coming in contact with the skin may burn.

The treatment is quite simple:

Patients are stripped, clad in a flannel bathrobe, and so attired are placed in the moderately heated body apparatus in a reclining position, with a pillow under their heads. By adjusting the canvas curtain at one end of the apparatus, as much of the body and limbs are subjected to the heat as desired.

Damp, cool cloths are kept on the forehead or nape of the neck, and are changed as soon as they are heated by a trained nurse, who is in constant attendance. Cool or hot lithia water is given if thirst is complained of or a profuse perspiration is desired. Dry cloths are placed over the parts under treatment, when patients find the heat too intense, and are changed as often as necessary.

The patient is allowed to remain in the machine from forty minutes to one hour; he is then placed upon a padded massage table, covered with Turkish towels or a blanket, and allowed to perspire for fifteen minutes. A masseur then rubs the patient dry, thoroughly massages the affected parts, if necessary, and finishes with an alcohol sponge. In from half to three-quarters of an hour later the patient is allowed to leave.

In the leg and arm apparatus the patient is prepared as for the body machines, but sits in a chair, with the affected limb in the hot-air chamber. Canvas attachments are cut to fit different portions of the body for local treatment.

The following effects have been observed: Temporary flushing of the epidermis, followed by reddish mottling, which remains for a number of hours and gradually disappears.

The sweat and sebaceous glands are stimulated, and their excretions enormously increased. In the axillæ, on the pubes, and all hairy parts, the sweat gives a markedly acid reaction, which continues longer than on other portions of the body, where it usually begins to turn alkaline after an hour or less of free perspiration, unless the reaction is due to the presence of uric or some other fixed acid. The specific gravity of sweat so obtained varies from 1002-1005, being somewhat nearer the higher figure in lithemic cases. Lactic acid, urea, sodium chloride, and the volatile fatty acids of the sebum are found in nearly all fresh specimens. Uric acid in minute quantities is occasionally found in lithemic cases.

Miliary rashes may develop, but disappear in a short time. The growth of epithelial cells, especially around old ulcers and chronic eruptions, is enormously increased and giant cells are formed. (Fuerst.)

Smoothness as well as softness is imparted to the skin. All infiltrations, thickenings, and gouty deposits of the cutaneous and subcutaneous tissues, have a tendency to be absorbed.

The pulsations of the heart are strengthened and quickened from ten to twenty-five beats per minute, unless the patient is exposed to the action of the heat too long (over an hour), when they become rapid and feeble. Mitral systolic murmurs are sometimes heard immediately after a body treatment of one hour duration. The radial pulse is usually full, strong and regular. The superficial arterioles and capillaries are at first contracted, but almost immediately dilate.

The lymphatics are stimulated and absorption of all abnormal deposits about the joints and in the tissues is facilitated.

Respirations are increased from two to eight per minute during a reasonable exposure, but become rapid and shallow if the patient is subjected to a very high temperature (290° F. for the body) for some time. Lung congestions, pains, and bronchial spasms are relieved.

Congestions of the kidneys are very much relieved. The excretion of urine is stimulated, both the solids and fluids being increased, though immediately after a treatment the urine passed is sometimes decreased in amount and specific gravity. There is a tendency to decrease albuminuria and sometimes to stop it.

The alkalinity of the blood is increased. The number of red blood corpuscles and the temperature are temporarily increased. After too long and numerous exposures the patient may become anemic.

After an exposure of an hour or less the body temperature rises from two to five degrees F., varying with individuals and the portion of the body under treatment. In the rectum, where normally the thermometer registers higher than beneath the tongue, the temperature is sometimes found to be 1/5 to 1/4° F. less, after a treatment. The temperature returns to normal in about one hour after a body treatment.

There is mild stimulation of the cutaneous and superficial vasomotor nerves. General soothing effect on the sensorium, alleviating pain, and overcoming spasms. A tendency to sleep in some. When overexposed, symptoms of irritability, muscular twitchings, pricking, etc., develop. Some patients state when a painful limb is exposed to the heat for a time that the relief from pain imparts a sensation of loss of that member.

Loss of weight is very moderate in slim and marked in stout people after long treatments. This loss is usually soon regained, if not kept down by proper measures.

There is a temporary increase in the soreness of gouty and rheumatic joints during the softening and absorption of tophi and fibrous adhesions. I have noticed that some old cases without much pain for years suffered severely during absorption. As the urates were conveyed in the blood to the organs of excretion, they caused the same symptoms as when deposited in the tissues. These may be called involution symptoms.

Many patients have no thirst while in the apparatus, while others like a cool drink, which generally causes profuse perspiration.

In the treatment of many diseases hot air is merely an adjunct, and must be administered as such. It is my routine practice to have all patients massaged by competent operators, after being removed from the apparatus; and this procedure certainly makes an improvement in the results obtained in chronic cases.

Though I have had excellent results in absorbing fibrous adhesions, edema and tophi, in relieving congestive, neuralgic and inflammatory pains, in reducing obesity, in functional anhidrosis, in suppression of menses from cold, in limiting inflammatory reaction following sprains, and breaking up of adhesions by force, in some chronic skin diseases, post-alcoholic congestion, acute and chronic nephritis, and numerous forms of arthritis, I will confine myself to-night to a few brief remarks on the affects of hot air in rheumatism, gout, and arthritis deformans.

Most of the cases that presented themselves for treatment were patients who had tried everything they had ever heard of in this and foreign countries, without receiving much benefit, and of these a large number were apparently cured, some showed decided improvement, and a few did not respond as well as expected.

An acute attack of lumbago, torticollis, pleurodynia, scapulodynia, muscular cramps, sciatica or soreness and stiffness following inflammatory rheumatism, will often be relieved by one application of hot dry air, after other treatment has failed; but, as a rule, a course of five to ten treatments is needed to effect a cure in stubborn cases.

In acute articular rheumatism the swelling and pain usually disappear after twelve to fifteen treatments, but occasionally have a tendency to reappear in the same or other joints a day or two following the last treatment. This is the only form of rheumatism that I have treated in which large doses of the salicylates gave as much satisfaction as hot dry air, and I have found it of advantage to administer both in many of this class of cases.

Articular rheumatism of long standing, with a thickening of the capsules, stiffness and pain on attempted movement of the joints, is wonderfully benefited. I have seen the patella of the right knee displaced from its normal position by fibrous tissue, making it impossible to mount stairs, resume its natural position and motion after ten treatments, one given every other day. This case was of three months' duration and has had no return of inconvenience in six months. Another case of twenty years' duration took sixty treatments in three months, at the end of which time she was enabled to walk very well without the aid of crutches or cane. It is better to allow patients a rest of two weeks or a month during long treatments instead of subjecting them to the heat every day or alternate days for periods over two months.

Chronic muscular rheumatism and obscure forms of neurotic nature that are so resistant to the usual measures, promptly respond to hot dry air. The pains disappear after each treatment but return in a few days, though not quite so severe, and in time leave to return no more, unless from some act of indiscretion on the part of the patient.

The longest course of treatment I have ever given for the foregoing forms of the disease was thirty treatments given during a period of two months.

Gonorrheal rheumatism, when treated early, has never left a stiff joint in my limited experience, and the duration of the disease is somewhat shortened, though it is impossible to say how much.

Cases involving the bursæ over the patella, olecranon, and under the tendo Achillis are stubborn, requiring anywhere from ten to thirty treatments.

Stiff joints following gonorrheal rheumatism generally loosen up in four to eight weeks, if treated daily for the first week or ten days, and on alternate days thereafter, and if the joint has not suppurated. I seldom order massage for gonorrheal cases unless the joints are stiff.

A number of chronic cases complaining of intense rheumatic pains, especially at night, on the site of old injuries, were entirely relieved after ten to twelve visits.

A few cases of rheumatic pleurisy disappeared after one to three treatments, administered one each day.

Rheumatic gout seems to include all doubtful arthritic cases, therefore I take the liberty of adding a few remarks on diseases that are often classed under this head. They are gout and arthritis deformans.

Rheumatic gout and chronic gout of long standing are slower to respond to the treatment than cases of simple rheumatism.

Some patients are three months or longer under treatment before they show satisfactory results, though acute or subacute cases only require from one to four weeks' treatment. Gouty patients respond somewhat better if given a course of lithia for two weeks preceding the application of hot air.

A prominent merchant who was sent to me with the diagnosis of subacute rheumatic gout of the right knee-joint, was unable to walk without the aid of two crutches, and suffered much pain. Treatments were given daily, and at the end of the fourth he left the hospital with one crutch, two days later with a cane, and after the eighth visit walked without aid of any kind; by the tenth treatment all soreness had disappeared from the knee-joint.

The abnormal deposits in the joints apparently disappear long before the soreness, which may remain for months after motion has been restored in stiff joints. This I attribute to the fibrillated articular cartilages rubbing together after the urates have been absorbed.

After large deposits have been caused to disappear from knee-joints patients have difficulty in walking for a considerable time, owing to the relaxed state of their ligaments.

Chronic effusions in the ankle, knee, and wrist-joints in gouty cases are occasionally very obstinate to treatment. One case of irregular gout at the menopause, with symptoms of angina pectoris, was entirely relieved in three weeks by twelve treatments, and has had no return of her trouble in nine months, though for two years previously she had weekly anginal attacks and had never been free from other symptoms.

Several patients of gouty tendency with rigid spines resembling the spondylitis rhizomyelia of Van Bechterew, have had motion partially restored and their pains entirely relieved by daily baths for a month and occasional ones for two months thereafter.

Acne and other skin blemishes of gout and rheumatism often disappear during a course of treatment.

Hot air is the only remedy that has proved of much value in arthritis deformans. In acute forms it simply lessens the pain when present, and retards the progress of the disease, but in the chronic cases its action at times is surprising. I recall a case that had been helpless for years. The forearms were flexed upon the arms, the legs upon the thighs, fingers and toes distorted, and the shoulder, hip, and wrist-joints were stiff, and the spine partially so. After thirty treatments the patient resumed her household duties, and she now goes about as well as ever. Of course, such a result is not obtained in many cases, but merely shows the possibilities.

Lithemia, with its numerous symptoms, will disappear or show marked improvements for months after a course of twenty body treatments taken at short intervals.

Many have an idea that hot dry air is very depressing and should not be applied to cases with cardiac disease, arterial sclerosis, neurasthenia, anemia, etc. In my experience it has been found of benefit instead of detriment, when applied intelligently in such cases. For instance, a case having cardiac or arterial disease would first be subjected to a local treatment over one limb and if no untoward results were noticed, over two limbs at once, and so gradually increased until the entire body was placed in the hot-air chamber. In this manner I have successfully treated gouty cases that had had several attacks of apoplexy.

At least thirty per cent. of the rheumatic and gouty cases treated had valvular or serious arterial disease. A few have an idiosyncrasy which may be overcome by perseverance, as in the case of a prominent lawyer of Manhattan Borough, who, when first subjected to a temperature of 240° F. over the entire body had a pulse of 140, vertigo, and tinnitus aurium. He tried it again, and is now able to take from 280° to 290° F. in general treatment without any trouble.

In St. Bartholomew's Hospital of London a case of aortic regurgitation and obstruction, with the same affection of the mitral valve, considered hopeless, with death expected every moment, was temporarily benefited by the application of hot dry air ordered by Dr. Lauder Brunton. The foregoing, with other trials, demonstrates that the application of hot dry air in cardiac cases is at least safe.

Neurasthenic cases are common in lithemia, and all that I have treated were cured.

Anemia is not a contraindication, it being only necessary to reduce the number of treatments given in a stated time.

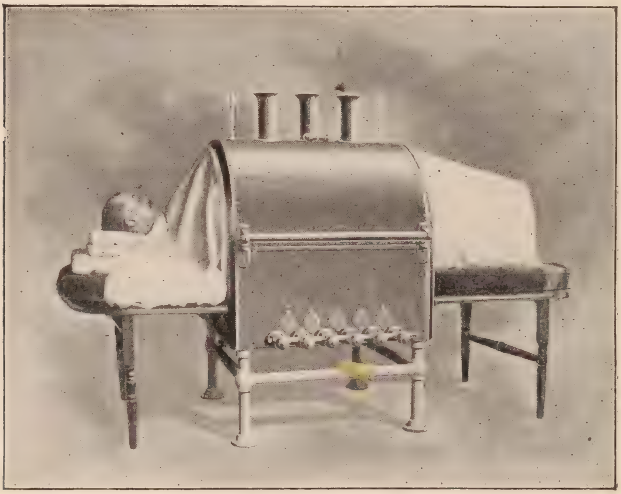
One case of cardiac arrhythmia, without any murmurs that I could hear, had bradycardia whenever subjected to a treatment of a half hour or over. No other symptoms were noticed, though her pulse went down to forty.

Occasionally a patient will complain of cardiac palpitation or a heavy, uncomfortable feeling in the stomach after taking a drink of cool water while in the apparatus.

Several patients suffering from gout, with chronic nephritis, and having a dry, scaly skin, did not perspire freely when put into the apparatus. Consequently they had to be removed before the thermometer registered 150° F. These cases were rubbed with lanolin and were subjected to a temperature of 260° F. the next day with excellent results.

A sense of floating through the air and flashes of light before the eyes frightened one patient at the beginning of her first treatment. These symptoms soon passed away and since then she has only had the slightest floating sensation.

A woman 35 years of age, who had had a hysterectomy performed four months before was treated for a painful and swollen elbow-joint. After her first treatment she stated that her underclothing was stained black on the side of her affected elbow. An examination showed marked pigmentation in the left axilla, which disappeared after the fourth treatment. This case had been taking KI. and arsenic, prescribed by her family physician.



Body Apparatus in Use.

One case of moderate epistaxis was observed during a treatment, in a gouty patient just past the menopause.

Slight headaches occasionally occur. The foregoing symptoms were generally observed during body treatments.

It is very difficult to give a prognosis on cases sent for treatment, as they vary so much in the results obtained, and the time taken to effect a cure. Cases of long duration might make a rapid recovery, whereas a comparatively new case might take months or resist the treatment, but I am certain that thermaerotherapy will give better results in chronic gouty and rheumatic diseases than any other means at our disposal.

DISCUSSION.

William Gilfillan: Mr. President and gentlemen, I fear after the very learned dissertations we have listened to, that my remarks will perhaps fall short of the mark.

The name rheumatism is like charity—it covers a multitude of sins; it covers a multitude of names. We have had this evening an example of that, in which a great many diseases have been brought in and covered under that name. There was a time when malaria covered a great many diseases that were met in general practice, and lately we have a number of diseases included under the name nervous prostration. In the same way we have a number of diseases included under rheumatism which scarcely require to be included or discussed in that way. I will treat rheumatism from the light of the general practitioner, not from that of surgery or bacteriology, and this leads me, in the first instance, to wipe out gonorrheal rheumatism. That is one thing that depends, I suppose, upon a specific organism, and nothing more or less. It has nothing to do with rheumatism; it has been confounded with it owing to faulty diagnosis, and the same thing may be said in regard to syphilitic rheumatism. Syphilitic rheumatism is a condition that does not depend on anything that is common to ordinary rheumatism; it is endosteitis or periosteitis or osteitis, and so that may be dismissed; the treatment for that is entirely different. Then, again, we get another condition, that is, malarial rheumatism. That, however, may be more nearly allied to rheumatism than either of the others that I have discussed so briefly, but whatever is done to relieve that, it cannot be removed without the exhibition of quinine and those remedies that are anti-malarial. We come, again, to another form of rheumatism which is frequently concomitant with Bright's disease, but I will speak of that later; however, I would say, from the point of view of the ordinary practitioner, that when you have frequent attacks of rheumatism it would be very advisable to examine the urine and see whether or not there is a condition of the kidneys there that requires attention.

In order to cure a disease we have to have some definite ideas as to what produced it, and I will state, to begin with, that rheumatism is produced by want of proper correspondence between the introduction of food and the proper elimination, and that it depends, to a large extent, upon want of proper elimination. There are causes without the body that help to produce rheumatism. You will find in climates that are damp and moist and cold that rheumatism is much more frequent than it is in a dry climate. A great amount of elimination takes place largely by the skin, by the lungs, and by the kidneys, and with these you are all familiar, but in a moist climate, of course, a very small amount will be eliminated by the lungs, and it always interferes with the elimination by the skin. These two organs having been crippled, in that way there is a larger amount of work thrown upon the kidneys. If the kidneys are active and can eliminate, they may be able to keep up that condition. In that way we find the secretions very often much interfered with and the blood becomes surcharged with all the effete elements. I will not enter into what are the effete elements; at one time it was customary to say that rheumatism was caused by the excessive amount of lactic acid in the blood, and from that arose a certain line of treatment.

Now, in regard to those conditions that produce rheumatism and that are in the organism itself, you might say one is want of exercise. There are many, perhaps, with fair digestion and good appetite who eat very largely and do not take any exercise. In that case they are very liable to have rheumatism. Then, again, some persons, although they eat heartily, suffer from indigestion, the food is not digested, secondary digestion is defective, and that leads to rheumatism probably more than any other cause—the secondary digestion, the digestion in the intestine. And then another cause for it is the use of alcoholic stimulants, and in that respect a good many persons can get along very well and do not suffer from rheumatism except they drink. If they drink too much beer or whiskey, then they are apt to have rheumatic trouble develop, and I would say that in a case of this kind I would look upon the beer as more hurtful than the alcoholic stimulants, such as whiskey or gin or brandy are.

Now, having gone so far in that way to point out the conditions which produce this disease, we may come to look upon those remedies that are calculated to relieve the condition. At one time the alkaline treatment had very great success and was quite in vogue. Rheumatic cases were treated with alkalies and some cases recovered very quickly, indeed. With other cases it was quite different, the digestion became impaired, the rheumatism continued, and there was no advantage whatever. Dr. McClagan, however, made a great point when he spoke of salicin and salicylate as being a remedy which would act without interfering with the stomach, and since that time the treatment produced wonderful effects. At first it was brought up against the preparations of salicilin and salicylates, the use of which had been in vogue, that they cured too rapidly and heart disease was more apt to be produced by this treatment than when cured in the other way; that, however, was found to be not the case. The sooner a person is cured of rheumatism the less apt the heart is to be affected. The danger, of course, in all these cases is the danger from complications arising in the heart. Now, the great eliminators in this disease are the kidneys. If you have a pair of sound kidneys you can very quickly get a patient over an attack of rheumatism. If the kidneys are unsound and cannot be stimulated you will find you have a difficult case on your hands and it will last quite a while. One of the gentlemen who have preceded me has spoken of scarlet fever being frequently complicated with rheumatism. That, of course, bears out what I say, that when the kidneys are involved and when they are unable to effect elimination, then you have rheumatism, you have this swelling of the joints and all those troubles.

I will speak first of acute rheumatism. In a case of acute rheumatism, when called to see it, you will find often there is relief given by the administration of some of those febrifuges, such as phenacetin; the action of phenacetin in cases of that kind is much more rapid than that of salicylin or salicylates. It is a very good plan very often to combine the two, to give phenacetin or some of the coal-tar products to reduce the circulation and the fever, and also to give afterwards the salicylates. Still, if you confine yourself to them you will find you do not make headway very rapidly. In order to act upon the eliminating organs and to clear up the circulation, you require to give two or three good doses of calomel; sometimes one dose is sufficient and sometimes two or three may be required. When I say good doses, I do not mean the dose formerly given, such as 10 or 20 grains. I think a dose of 3 to 5 grains is all that is required in any ordinary case; 3 to 5 grains given with a little Dover's powder at night, followed up with a saline in the morning, will act very thoroughly. I have been surprised at the results sometimes produced. I have known a man to take 10 grains of calomel and some Dover's powder and not have the least result; it congests the liver and does not act so well as when given in smaller amount; so my plan has been to give a small amount of phenacetin to begin with and at night calomel and Dover's powder, followed with a saline in the morning, and you will find that will act admirably. It is just the same way as when you have a patient with intermittent fever, you clean him out with calomel and some other remedies, and then you give quinin, and your effects are better than if you start with quinin without a thorough cleaning out, and you will find that a very large number of cases will yield to that.

Now, the action of the salicylate—I will not go into that, but I will say that ought to be pushed very thoroughly in the first forty-eight hours, and if you push the salicylate of soda in doses of 15 to 20 grains every three hours for forty-eight hours you will cure almost every case you meet if you give it in the beginning, and if you do not cure it in that time you would better stop giving the salicylate, because that will not act any further. It might be well in a case of that kind to try more of those remedies to act on the liver and on the secretions. In the same way you might say salol acts very well, and wintergreen has its advocates, and all that.

Now, as the discussion has brought up, in these cases where one or two joints only are affected, it is sometimes a good thing to be able to relieve the pain in those joints. Now, suppose a man is suffering a great deal and cannot move in bed, with inflammation in the right knee, and inflammation of the left wrist-joint so he cannot turn himself; he wants to get rid of that. Plasters may be applied ad infinitum, but there is only one thing I know of that never fails—I will not say never, because that seems like saying too much, but it seldom fails—and that is a small fly-blister of cantharides or something similar, about the size of a quarter, on the knee and the same size on the wrist, and you will find the next day the swelling just as big as ever, but the pain has gone. I will leave that to the physiologists to explain how that acts.

However, I sometimes find chronic cases. Now, when we come to that I think you will find you require then to start in and look after all the secretions. That is the great thing; to look after the secretions, look after the man's diet, and see what has been the cause of it, to begin with; and then, after you have done that, give him a good, thorough cleaning out several times with these cathartics. You will find that all those men with patent remedies and things of that kind, that it all depends on a thorough cleaning out. I once had a consultation with Dr. Willard Parker, and I had given calomel, colchicum, etc., and he said: "That is the right thing; something to act on the liver secretion, and even something to get hold of his suprarenal capsules." I suppose that is the idea; we ought to clean them out very thoroughly. At the same time I think that one of the points in which we sometimes fail is that we do not encourage our patient in rheumatic attacks to drink sufficiently of water. Let them drink largely of water, lithia water, Vichy, or anything of that kind, but the great thing is to drink sufficient water. You must have plenty of water in the system if you want to have the kidneys thoroughly acted upon and carry out the secretions and morbid elements that remain in the blood. I have had a patient suffering repeatedly from rheumatic gout, and he gets through the attacks very quickly because he drinks lithia and other waters, and will drink three siphons of Vichy in twenty-four hours. The urine is blood-red and contains an enormous amount of urates, but after twenty-four hours the pain subsides and everything is all right. So I think in that way, looking after the thorough cleaning out of the bowels and keeping the kidneys active by drinking plenty of water—those lithia waters—you will find the way clear.

Now, as regards massage. That often is very useful in these chronic cases. It stimulates the circulation and the first application or two may not relieve the patient, but very often makes him feel worse, but it certainly stimulates the circulation and produces absorption of the deposits that may have taken place, and good massage, done thoroughly and well—it is not rubbing—but thorough massage that will help to carry off all these deposits, and if you keep the kidneys active you will find that the trouble passes over.

Now, in regard to the prevention of the disease, which I think is one of the important points. You will find regular exercise is a very great point. I have often prescribed that for patients and I find you may prescribe anything out of a bottle and they will take it, but prescribe exercise and it is no use. I had a lady once who suffered from rheumatism; I had her as a patient regularly every few months for four or five years, and I tried to get her to take exercise, but it was of no use. Finally the bicycle fad came in and she took the craze and went off on a bicycle, and I have never seen her since. The bicycle is a great thing in that way, as it is exercise in the open air and helps elimination, and what I want to impress on these gentlemen present is that elimination is the great thing.

Any person who has rheumatism ought to look after exercise, and also after the digestion; that is the great point; and there is the difficulty of the former alkaline treatment where so much alkali was put in the system that it destroyed the digestion, and it is a very important thing to have the digestion right; if a man's digestion is right, I will guarantee he will not have rheumatism. You want to keep that right by using lactopeptones, pepsin, nux vomica, and other remedies that come in that way.

A great deal has been said about hot baths and cold baths in regard to the treatment of rheumatism, and there is one thing, that chronic rheumatism is largely helped by a warm bath. The ancient Romans followed that to a great extent. The Hot Springs of Arkansas and Virginia, where a great many persons go who suffer from rheumatism, have no doubt restored them to health. There are many things that enter into that besides the hot bath. The patient goes away from ordinary life and lives quite easy and free from care and takes care of the food and lives by a certain method, and the hot bath helps very much. We have heard of hot air to-night and I presume that is very good, and there is no question that it must alleviate, but the question is whether it can really cure. I have known people who suffered from rheumatism very much who have undertaken hot baths, Turkish baths, etc., and really it seemed to make them more susceptible afterwards to rheumatism and rheumatic affections. At one time I suffered myself from rheumatism and I took hot baths, etc., and they always made me feel better for the time, but in two or three days it was just as bad as ever. Then I turned over a new leaf and took no more hot baths, but since that time I have taken a cold bath every morning and I have not had a twinge of rheumatism for about fifteen years. Now, every person cannot stand a cold bath in the morning; it is one of the things that requires a physique to be able to stand it, but at the same time I think a great many are benefited by a sponge-bath or sponging over with alcohol or something of that kind in the morning, so as to stimulate the skin and get up the circulation in good condition, and a good brisk rub is the best thing after that.

The great point, I think, in preventing rheumatism is to have thorough elimination. The great point in curing rheumatism is to aid elimination in every way, by the kidneys, bowels and the skin. Elimination is the point upon which I insist. Eliminate! eliminate!

The President called on Dr. Blaisdell to continue the discussion.

Silas C. Blaisdell: I believe I am confined to the surgery of rheumatism. Dr. Bristow, however, seemed to take up the whole subject, so I have nothing, therefore, to say except about the surgery of it.

Strictly speaking, I think O'Conor placed rheumatism higher than where it belongs. There is no surgeon who would not open an arthritic joint that contains pus or flocculent fluid, but I think he would hesitate to open a true rheumatic joint, and there is the question in my mind; true rheumatism, arthritic, is not always rheumatic, gonorrheal rheumatism is not true rheumatism, but we know we can get pus in a gonorrheal joint, when we could not get it in the true rheumatic. In the arthritic—that is, the infected joint, I do not think any surgeon would hesitate to open it, I have grave doubts if true rheumatism is infective. I do not think it has been established to that extent, nor do I believe there is a medical man here who would subject his patient to an operation for a simple rheumatic joint, when there is no question but that it is rheumatism. If there is a question, operate, of course. Chronic rheumatism, I think, limits itself to the question of the surgery of the bones and tendons. One of the greatest physicians that ever lived was asked: "What will cure rheumatism?" and he answered, "Six weeks will cure it."

Rheumatism, as a rule, will limit itself; keep the patient warm, let him alone, and he will get well, although he may suffer considerably.

I think it is extremely reckless surgery to advise opening a simple rheumatic joint not due to infection. The infected joint should always be opened.

Buckworth, "Treatise on Rheumatism and Gout":

"All operations, except those of necessity, on rheumatic subjects, are contraindicated. The tissues are badly nourished and the arteries are degenerated. There is constant danger of cellulitis and gangrene. Though all aseptic precautions may be taken, the efforts at restoration fail. No interference, even in minor surgery, such as the removal of wens or cysts, should be practised."

"Attacks of rheumatism are sometimes precipitated by operations."

"Cases have occurred in rheumatic subjects following operative interference, where deposits have occurred along the incision, and fistulous tracts remain, lined with deposits of rheumatic material."

By Koenig:

"*Acute synovitis,* due to irritation from chemical causes, such as occur in gout and rheumatism, are merely a congestive condition of the mucous membranes, and all operative interference is not justifiable."

"*Gouty synovitis* is but a manifestation of a general condition not of a local trouble, remembering that the cartilages, ligaments, and peri-articular structures are affected and there is always a tendency to recurrence."

"As a rule, gouty conditions and chronic articular rheumatism are conditions of advanced life. The individuals are over-fed and tissues are badly nourished. No operation should be undertaken."

"*Chronic articular rheumatism.* The effusion is limited in amount and is generally lacking. Primarily, the synovial membrane, capsule, and peri-articular structures are involved, ligaments and fascia become fixed, and therefore only excision or amputation is justifiable. Consequent upon the irritation is a hyperplasia; the joints become fixed and fibrous adhesions are frequent in other joints."

By Roswell Parke:

"*Osteo-arthritis. Rheumatic arthritis.* Operative treatment is not often called for, though in young subjects and particularly when the disease affects one joint, excision may be resorted to when pain is very severe or the limb rendered useless."

Dr. Nelson L. North: Mr. President, Gentlemen and Ladies of the Society:—When I consented to take part in the discussion of this subject I had no thought other than perhaps to offer some extemporaneous remarks, ranging up from the time I first became interested in medical matters to the present day. What I have in writing is to aid memory. The thought of acute rheumatism fifty years ago, as of chronic rheumatism and gout as well, was of a violent *inflammatory disease,* and the treatment, to use an almost obsolete word, was *antiphlogistic.* In Elliotson's "Practice," edited in 1844 by Stewartson of Philadelphia, rheumatism is spoken of as a derangement of the assimilating process, brought about, it was thought, by *malaria,* with the exciting cause of exposure to cold and weather vicissitudes.

Of course, the treatment was to encourage diaphoresis by the use of Dover's powder, opiates, etc., followed by blood-letting, calomel to its constitutional effect, salivation, catharsis, etc., etc., to be followed by bark, either in substance or in tincture, and, of course, quinin later on. It was expected that the patient would become very much reduced and that the sickness would occupy *much* time, and, if a young person, probably get up with a very serious heart complication. One sort of axiom of Elliotson's, however, at the outset, was that if the heat, redness, and swelling were prominent symptoms, active antiphlogistic treatment was indicated, and if the parts were cooler than they should be, then to use stimulants. In the fifties the thought regarding the cause and cure of rheumatism had somewhat advanced. Dr. James Mather Smith, Professor of Theory and Practice of Medicine in the old Crosby street College of Physicians and Surgeons, New York, a very precise, erudite and systematic didactic teacher of medicine, after a somewhat extended discussion of the question, giving many quotations from authorities and teachers who had preceded him naming in extenso the views of Hippocrates, Galen, Sydenham, etc., etc., and then showing the necessity for combating the inflammatory condition by using hydrargyrum subchloridum, to the extent of "touching the gums," and opiates to relieve the pain; would usually wind up somewhat after this fashion: "Gentlemen" (for we had no ladies in medical classes then), "whatever theory you may adopt as to causation of rheumatism, whatever treatment you may choose to use, you will have cause to remember one thing, and if you are wise you will give it due weight in rendering your opinion, your prognosis, and perhaps, after all, you may deem it the most important item in your *armamentarium medicarium*—I refer to the *tinctura temporis*." And, in very fact, rheumatism forty to fifty years ago was not only a very *painful* but a very *tedious* complaint. The attendants were wont to talk with bated breath and to walk on tiptoe about the sick-room lest they disturb the nerves or jostle the bed or bed-clothing of the greatly afflicted patient, and the one most important of all remedies to be depended upon was the powerful though much-abused *calomel*, or mercurial in some form or other. The great Alonzo Clark—to whom, in personal appearance, the late great English statesman, Gladstone, bore so much resemblance—used to advise mercurials very continuously, in other diseases, yet when upon the subject of the treatment of rheumatism, especially rheumatic carditis, he would say: "Here, gentlemen, push your calomel in small but oft-repeated doses to the complete constitutional effect, that the salivation may arrest the cardiac inflammation and save the valves of the heart." That great and in his time most popular medical teacher, Professor Watson of London, who had somehow the faculty of spying out things ahead of his age and time, used to say, in his lectures delivered fifty and more years ago, of rheumatism, that it "implies *inflammation,* but inflammation of a peculiar or specific kind." "In truth," he would say further on, "acute rheumatism is a blood disease. The circulating blood carries with it a poisonous material which, by virtue of some mutual or elective affinity, falls upon the fibrous tissues in particular, visiting them and quitting them with a variableness that resembles caprice, but is ruled, no doubt, by definite laws, to us, as yet, unknown." The treatment recommended by Dr. Watson was much the same as before indicated by others, but somewhat more progressive. In the later fifties and early sixties acetate of potassium and iodide of potassium were by some recommended. About this time Dr. Prout of London "threw out the suggestion, which was adopted and enlarged upon by Dr. Todd, in his Croonian Lectures, that all the phenomena of the disease are referable to the presence of *lactic acid,* which it was said, is developed too freely in the system in consequence of imperfect assimilation, and accumulates in the blood by reason of defective cutaneous action," and as a result the treatment is gradually taking on more of scientific precision and inculcates less of empiricism in its detail. If I may be excused a personal reference just here, I want to name a circumstance of interest, at least to myself. My inaugural thesis, written, of course, before my graduation in 1854, was upon the general subject of inflammation, and incidentally in my theoretical calculations—for the whole matter was the attempt to elucidate a theory—I attempted to prove that the inflammatory process caused the development of *acids,* and that this acid formation would "perhaps acidulate and partially change the nature of the blood," stating that "this would account for the increase of fibrin in the inflamed part and in the blood generally, and the greater number of the inflamed points, as in inflammatory rheumatism, the greater would be the aggregate of acid and of necessity the amount of fibrin in the blood." And it has always seemed to me possible, and indeed probable, that the acid condition in rheumatism and the acidulous perspiration which is so prominent a symptom in the disease, is largely the *result* of the inflammatory action and less a *cause* of the rheumatic process, but that we have yet to look for Dr. Watson's "specific cause" of the blood disease—the *materies morbi* of other observers, or the specific organism or germ of Dr. Wilson, which is the object of the profound search of the observers of the present time.

The greatest real advance in the knowledge of the conditions leading up to, and the processes taking place during, the attack of rheumatism and, of course, in the better and more rational and more effective treatment of the disease, was effected during the decade of the sixties, when the suggestion of Dr. Prout, followed up and elucidated by Dr. Todd and others, and perfected, given definite form, codified, and brought before the medical world in his masterly book in 1864 by Dr. Henry William Fuller of London, Eng., is, it appears to me, so self-evident as to need no argument. In my memory, Dr. Fuller's book was a very godsend to the medical profession, and the abrupt change of the treatment of rheumatism from the blood-letting, blistering, mercurial, iodide of potassium, quinin—*everything* and *nothing* idea—to a rational treatment, and relief of at least the symptoms of this dreaded disease by *alkalies* was so marked, so phenomenal, as to arrest the attention of the least progressive man among us.

Since that time other advances have been made, but there is still room for improvement—improvement in the matter of definite knowledge of the real *cause* of the disease. Is it a germ—developing a toxin—which produces the inflammation, which causes the acidulation of the blood, which produces many of the symptoms, and which, may be, is the *cause* of the metastatic character of the malady? A possible argument in favor of the idea of the specific character of the disease might be adduced from the fact that salicylic acid, salicin, and medicines of that character cure. Salicin and salicylic acid were mainly introduced during the seventies when in connection with Fuller's alkalies we were giving these remedies in powder-coated pills, wafers, capsules, etc., for being practically insoluble, all sorts of subterfuges were adopted to induce patients to take the distasteful stuff. At last, salicylic acid was found to be rendered soluble by the addition of sodium carbonate, and a lumbering prescription was much used for this purpose, which was really making extemporaneously in this soluble mixture the sodium or sodium salicylate, which was soon, thereafter, to be found ready-made in all the drug-stores and shops, and so, during the eighties and nineties the sodium salicylate alone, or in combination with the other alkalies, or with colchicum or guaiacum, have been more used for rheumatism, rheumatic gout, and rheumatic neuritis than all other remedies. It is true that the almost innumerable combinations of the coal-tar series, with unpronounceable names, some of them of positive value and some of them valueless, have been recommended. Chemical companies almost without number have sprung up all over the world—perhaps no other place quite equaling St. Louis, however—all making the "very latest" and best article, with a patented or copyrighted name, which, if pronounceable, was absolutely without meaning and not offering, to the slightest extent, an idea of the composition of the drug, though all claiming to be positively *new* discoveries; when it is absolutely certain that the majority of them are only mercurial mixtures—but of what, who knows? We are assured by the "representatives" of the different houses—chemical companies—who are in many cases newly graduated physicians, "raising the wind;" that "this is positively a *new* discovery, which will reduce the temperature without the least cardiac depression; that it is anti-rheumatic, analgesic," etc., etc., etc. Then comes a sample with a "lecture," and they wind up by handing you the "*literature*" upon the subject, which "*literature*," in many cases, of course not in all, is composed of medical articles, written or said to be written upon some subject in which the new medicine is named, described, and extolled as a valuable remedy.

And, gentlemen—I blush to speak it—these procured articles often bear the signature or follow the name and title of men of more or less prominence in the medical profession. Professors, teachers, hospital physicians, and so on, down to the merest tyro from the colleges, who has been given the privilege to sign his name with an M.D. following. How much has been paid for this literature? How many medical journals are publishing as advertisements this "*literature*"—this stuff?

Of course, I know that honorable professional men, who have written or talked legitimately and properly upon scientific subjects, have been made to appear by misquotation or by unfair connection, by advertising thieves, as if engaging in this kind of business; but all too often the writing of which we complain is the result of contemptible collusion with parties in interest and the *literature* so produced is the direct outcome of a "promise to pay" by the dealer or owner of the so-called medicament.

It is readily admitted that the physician and the pharmacist should have constant communion, and be intimately associated the one with the other; without the skilled pharmacist the practice of medicine would retrograde to the days of powders—boluses and monstrous mixtures. But it is *suggested* that we could without serious loss dispense with some of the modern money-making "*chemical companies*" and with *some* of the hand-bag gentlemen who infest our offices, consume our time, and try our patience with the oft-repeated story of "wishing to introduce to our notice the only antipyretic, analgesic, anti-grippe, and antirheumatic medicine, that is perfectly harmless and that quite surely stimulates rather than depresses the heart's action!" (Excuse the digression.)

In this running commentary upon the medical thought on the subject of rheumatism for the past fifty years, it could not be expected much attention would be given to the detail of definite treatment or to the outline of particular cases.

While much dependence is now placed upon the use of salicin —the salicylates and many combinations of these different and yet allied remedies—I think we ought not to forget or neglect some other remedies that have proved effective and valuable. There can be no doubt that the iodide of potassium, especially in chronic forms of the disease, is a valuable medicine, that can hardly be replaced, especially in valvular cardiac complications. The same may be said of colchicum and its preparations; we should never neglect its use, even to its producing action—violent action, perhaps—upon the bowels in cases of rheumatic gout or gouty conditions. Guaiacum, again, is invaluable in many cases, especially where there is involvement of the tonsils, or where there are uterine complications. Then, in my experience, salicin but for its disagreeable taste and in the large doses required, is preferable to sodium salicylate in neuritis or rheumatic neuralgia, as, for instance, in brachalgia and sciatica. Salicin has the added advantage of being atonic, which sodium salicylate has not. Another, and one of the newer remedies, Piperazine, has probably come to stay. It has proved not only valuable as a solvent in renal and cystic calculi, but its power of counteracting acid conditions makes it a valuable aid in the treatment of rheumatism. I have believed that its use by old rheumatics has been beneficial in warding off threatened attacks.

Popularly much credence has been given to external remedies —liniments and lotions. It is open to question whether much good results therefrom. Probably some relief from the excessive pain, which is the usual accompaniment of rheumatism, may attend the use of chloroform and ether combinations, but great caution should be used lest in the disturbed condition of the heart troublesome and even dangerous attacks of syncope may result. A safe external application, and one, it may be, of some benefit, is alcohol, properly diluted. Some of the essential oils—peppermint, sassafras, and particularly wintergreen oil—being really a salicylate—if combined with turpentine. Petroleum, and especially if made into an ointment with lanolin, so as to encourage its absorption by the skin, will give beneficial results.

Then, again, it is believed in the earlier stages of rheumatism calomel in large—cathartic—doses, by unloading the liver and thoroughly relieving and aseptisizing the alimentary canal, will prove of benefit. The great desideratum, after all, to make treatment a success is a definite knowledge of the *remote* or *first cause* of thedisease, and if Dr. Wilson and his co-workers in the laboratory—to whom great credit is due—shall set us right in this respect it is believed even greater advances in modes of management at the bedside will result.

PROCEEDINGS OF SOCIETIES.

BROOKLYN GYNECOLOGICAL SOCIETY.

Stated Meeting Was Held February 2nd, 1900.—Scientific Session.

The President, R. L. Dickinson, M.D., in the Chair.
Twelve members present.

PRESENTATION OF SPECIMENS.—INTRALIGAMENTOUS CYST: HYDROSALPINX AND OVARIAN CYSTOMA.

Dr. Clarence R. Hyde: These specimens were removed from a woman on whom I operated two days ago. She was 38 years of age and gave a history of some seven years' disability, complaining of backaches and vertex headaches mostly. Her menstrual history was very irregular, of about seven days' duration, profuse in quantity, but no particular pain; married nine years and had a miscarriage seven years ago. On examination I found the cervix and a very small uterus jammed well up behind the symphysis; on the right side a mass which seemed quite hard and tense, and on the left side another mass which was less resisting. I had Dr. Butler and Dr. Polak examine the case in consultation, and from the history and other symptoms we made a diagnosis of fibroma. We reserved our diagnosis, knowing that in many such cases we are apt to find we are very much mistaken on opening the abdomen. However, on operating there was found on the right side a large intraligamentous cyst and on the other a hydrosalpinx and ovarian cystoma firmly bound down. The left side was enucleated first without any difficulty.

On the right side I made an incision into the peritoneum over the cyst and dissected out the sac with the fingers as well as possible. There was considerable oozing at this time. The tube was spread out over the sac in a very thin and elongated fashion. One could hardly differentiate the tube, and I could not locate the ovary at all. I believe if I had ligated the ovarian artery and uterine end of the tube first, there would not have been so much oozing. The sac was well down toward the cervix in the pelvis, incarcerated there and adherent. After the cyst was dissected out the ovarian artery and the uterine end of the tube were ligated. Dissecting the sac out anteriorly and posteriorly was very easy; the hard part came at the base of the sac. As is well known, that is the difficulty in all these intraligamentous cysts, and for that reason so many operators have advised starting in below and working up. I suspended the uterus, and am now sorry that I left it, but the patient had some shock and it was not deemed wise to prolong the operation. However, had I done a hysterectomy beginning on the left and peeling out the hydrosalpinx and cystoma, and then clamping the uterine artery and cutting across the cervix, I could have gotten at the intraligamentous cyst from the bottom with ease; but those are always after-thoughts that count for so little.

I have here the sac of the intraligamentous cyst which ruptured during enucleation, and the hydrosalpinx and ovarian cyst removed from the left side. I think the intraligamentous cyst was parovarian, although it contained a very thick, dark, grumous material; whether there was at some previous time a hemorrhage into the cyst, or as Dr. Butler suggested, some evidence of papilloma, I do not know; but as a rule we know the contents of parovarian cysts are pale and bland in color and the cyst wall is quite thin. The sac is in rather a torn condition, which occurred from tearing it out at the base.

I closed the wound with the Butler stitch, which makes a good lap stitch for the fascia. Any one who has used it cannot fail to see that this lap suture in the fascia is superior to any other.

DISCUSSION.

Dr. W. E. Butler: I want particularly to bring out the difficulty of getting that cyst up from the lower portion. It seemed to have dissected down through the layers of the broad ligament and then passed down along the cervix, deep into the pelvic cavity. The point to be emphasized is that when a cyst passes down there, it should be peeled up from below. I think the operation would have been easier if the incisions had been made along the anterior and posterior parts of the tumor through the peritoneum leaving the upper part intact, and the mass then dissected and peeled out in the ordinary way. My idea is, there had been hemorrhage into the sac; that there is some papillomatous material there. It evidently was there some time. The blood looked dark; it was not clotted or in any way a fresh hemorrhage; it was mixed in with the fluid of the cyst, and I believe some of that tissue there, if examined microscopically would show some papillomatous condition.

NARRATION OF CASES.—ARREST OF DEVELOPMENT.

Dr. John O. Polak: A Southern gentleman was good enough to send me these two photographs of an anomaly which I believe to be unique. It is an arrest of development in the form of absence of the nose and nasal openings. The interesting point is that there are no other defects of development, as cleft palate or harelip. The history of the case is that this was the third child of the mother. The mother and father both white; they were first cousins; the first pregnancy ended at five months with a dog-faced baby, and she had one other monster which was of the same variety. She had delusional insanity in the early months of pregnancy, announcing from time to time that the child had been born and looked like a dog, and at times she claimed the child she had in utero was a negro baby—she was a Southern woman. The two pictures, full face and profile, I think give a very good illustration of the absence of the nose and nasal openings.

I would say the case is presented through the courtesy of Dr. Page of Batesville, Va.

The child was born alive, in a somewhat cyanotic condition; efforts at resuscitation by the doctor established respiration, and the child lived one hour and a half. This photograph was taken immediately after death. The child weighed eight pounds. There is one other condition of which he spoke—that was the apparent abnormal size of the lower extremities, which were disproportionate to the development of the upper extremities. There was no autopsy. I looked up Gould & Pyle just before leaving home, and I could find no similar case reported in that compilation of abnormalities.

Dr. Shoop: The case recalls one shown at the Pathological Society a short time ago by Dr. Payne, in which there was total absence of the trachea, the bronchial tube of the left side simply rounded over to the bronchial tube on the right side, having no upward shoot whatever to connect with the nasopharynx.

TREATMENT BY GLANDULAR EXTRACTS.

Dr. Clarence R. Hyde: I would like to report a case the results of which I saw only two days ago. In this case, in November I removed a small ovarian cyst and exsected a portion of the right tube. After the operation a mass developed on the side from which the cyst had been removed. There was no increase in temperature or pulse rate, but considerable pain on pressure. On consultation it was decided that a hematocele had developed. I treated her for three weeks with ichthyol and iodine with absolutely no result at all. There was some fixedness of the uterus, and the fundus was drawn over to that side. At the end of four weeks I put her on the extract of the parotid gland, 5 grains, t. i. d., after Dr. Pierre Mallet's method of treatment, and within two weeks after the mass had gone down to half its original size. Yesterday she came to my office and I examined her; there was absolutely nothing of that mass on that side, with complete mobility of the uterus in all directions, and the patient was in excellent condition.

I report this because I think we are all interested in the exhibition of these glandular extracts. I have used the ovarian, mammary and parotid. This is the best result from the parotid. I have another case on the parotid gland and after two weeks there is considerable softening of the induration on both sides. I have had some good results from the ovarian extract. If any of the gentlemen have used these glandular extracts I would like to hear their experience. Personally I am very much interested in them. There has been a great deal of empiricism in regard to their use. Pierre Mallet reported very valuable results in their use. Bell of Glasgow reported some favorable results in the use of thyroid in secondary carcinoma following operation, in which he had apparently stopped the growth of the cancer.

We know, of course, as a rule that eventually a hematocele will be absorbed, but the interesting point to me was the quickness with which the mass disappeared after the exhibition of the parotid extract, when three weeks' treatment with ichthyol and iodine and hot douches had produced no diminution whatever in the size of this mass.

Dr. William Maddren: In the matter of absorption versus medication, it is hardly fair to compare the first three weeks with the succeeding month, because you would not expect absorption to take place immediately. I think it is not fair to compare the ichthyol and iodine in the first three weeks with the action of the extract in the second month. Of the merits of the extract I know nothing, but the patient would be in a more favorable period for absorption in the second month. How much the extract had to do with the result and how much the natural forces, is a question.

The President: The absorptive power in the lower abdominal cavity is a thing we are all interested in. The wonderful way in which huge exudates and edemas disappear is very interesting. Dr. Wood opened the abdomen of a young girl, I think for pus-tubes, and a clean and speedy operation was done. About six weeks afterward the doctor reopened that abdomen because of large, rapidly growing masses. In between the intestinal coils there lay a rigid edematous exudate the thickness of a hand in a great many places. It resembled a malignant infiltration of a very rapid kind, and the woman was in anything but good condition. We see minor degrees, but I never have seen so extensive a condition. The doctor dissected out a mass which the pathologist reported to be malignant growth, but the rapid disappearance of this exudate within the next six weeks showed that it was a remarkably edematous and thickened exudation.

A recent operation demonstrated a very complete reparative process from a severe injury. A patient had had retroversion; she was delivered; her retroversion returned in a mild form. She developed tubal gestation on the left side. Rupture occurred into the broad ligament and a large hematocele formed. The well defined mass rose to the iliac crest on the left side and within two inches of the navel in the middle line, while it filled the whole pelvis and dissected down to the top of the perineal pyramid.

Her pulse was 120 and strong, and we were ready always to operate, expecting such a mass to rupture into the general peritoneal cavity; but there was relatively little shock and little pain. A waiting policy was justified by her subsequent history. Three months later the mass had shrunk to a little over the size of a baby's head and she had been driving and walking freely. Her temperature had been normal all this time. It suddenly shot up to 102, and she developed septic symptoms. I opened her posterior vaginal fornix and the sac behind it and sutured the wall to the vagina and scraped out two handfuls of old clots, in the middle of which was the purulent material that was infecting her. The cavity was washed out with peroxide, cleaned, and drained. It was repacked every third day. The mass shrunk rapidly. Her retroversion, however, has now, two and one-half years later, given her much backache and distress. This and the increased size of one of her tubes also necessitating an operation, the abdomen was opened. The broad ligament on that side was thickened and somewhat rounded. In it were a considerable number of varicose veins. The tube was adherent deep in the cul-de-sac, and was spread out over the back of the broad ligament so that its outlines were partly lost. It could not be dissected off; the ovary on that side was flattened and atrophied. On the other side was an adherent hydrosalpinx with fairly healthy ovary. A Dudley phimosis operation was done on that tube, leaving an open stump sutured to the healthy ovary.

The interesting thing about the findings is the nearly complete repair of the broad ligament and peritoneum of that side. There were considerable adhesions. The shape of the broad ligament was altered, but it had made a nearly complete recovery.

Dr. Shober of Philadelphia has reported a good many cases where mammary extract has done good to fibroid tumors, and the thyroid has been reported to have done good in fibroids. I have tried it without any effect except a relief of the pain.

THE BROOKLYN SOCIETY FOR NEUROLOGY.

A Regular Meeting of the Society Was Held March 29th.

The President, Dr. William Browning, in the Chair.

Dr. J. M. Winfield by invitation read a paper on "Angeio-Neurotic Œdema," reporting some cases and discussing its pathology from the side of the skin lesion, as follows:

He said that this disease interested the dermatologist as much as the neurologist, for patients were more apt to call on cutaneous specialists when afflicted with this disease, as it is essentially a skin disorder, the nerves playing only a secondary part. After reviewing the descriptions of Quincke, together with some remarks on the etiology of the disease, he reported three cases. The first was a female aged thirty-three who had had six or eight attacks of sudden swelling of various parts of the body. Search for the recognized etiological factors failed, but pelvic examination revealed an ovarian disease. Since operation for that trouble there had been no recurrence of the angioneurotic edema.

The second case was a male whose attack of circumscribed swelling was caused by excess of uric acid.

Third case, also a male, in whom the attack followed prolonged exposure to a cold rain storm.

In speaking of the histological examination of the skin the doctor compared angioneurotic edema to the other angioneurosis of the skin, as urticaria, etc. He said that the whole skin seemed to be involved in this edema, and there was hypertrophy of the tissues under the skin. The lymph vessels were dilated and the canals were lined with endothelial cells; the blood vessels, also, showed marked changes. On account of inability to histologically demonstrate the cutaneous nerves it could not be proven just what the nerve influence was that produced this acute swelling.

The doctor said that much credit must be given to Dr. Unna of Hamburg for demonstrating the changes in angiomatous swelling of the skin.

Dr. Onuf said Dr. Winfield had presented the subject in an interesting aspect, as not much was known of the histology and it was valuable information. He believed disturbances of the intestinal tract was one of the prime factors in the causation, for he had had a case where the erythema and membranous enteritis existed in the same patient, still the neurotic taint was a marked factor, for in the report of seven cases which he had made this taint existed in four, while exposure to cold was the factor in some of the others.

Dr. Haynes recalled the case he showed to this society about a year ago, when the edema of one side of the face was due to reflected irritation from within the mouth. That as a rule in these cases there existed a gouty or uric acid diathesis, exposure to cold, improprieties of diet, and habits of life were the exciting factors and a cure usually resulted by treating the condition on these lines.

Dr. Brush said the condition was due to various irritations arising from different places, but why is the question, for the treatment makes no difference, being as the subjects are all neuropaths.

Dr. R. C. F. Combes next read a paper on "Legal Restraint in the Treatment of Disease"; discussed by Drs. L. D. Mason, L. J. Morton, C. F. Barber, O. J. Wilsey, and A. C. Brush, on whose motion a committee of three was appointed to consider "The Proper Care and Treatment of the Inebriate," especially in the light of a public charge.

W. H. HAYNES,
Secretary.

BROOKLYN PEDIATRIC SOCIETY.

April Meeting.

The seventh regular meeting of the Brooklyn Pediatric Society was held at Apollo Hall, 102 Court Street, on Friday evening, April 20th, 1900, with the president, Dr. Read in the chair.

The scientific program consisted of a paper by Dr. William M. Hutchinson, on the clothing of infancy and childhood. This was followed by a discussion, taken part in by Doctors Shaw, Kinne, Walker, Edson, Kerr, Shipley and Read.

Dr. Hutchinson then closed the discussion. Doctors William

Kinne, C. L. Kerr and N. T. Beers, Jr., were elected to membership.

The meeting night was changed to the second Friday evening in the month. All interested in pediatrics are cordially invited to attend the meetings of this society.

William A. Northridge,
Secretary.

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MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, April 17, 1900.

The President, L. S. Pilcher, in the Chair.

There were about 75 members present.

REPORT OF COUNCIL.

The following candidates were declared accepted by the Council:

Geo. B. Fielding, L. I. C. H., 1899.
Hugh H. Atkinson, Univ. Pa., 1898.
Dennis W. Barry, Yale, 1894.
Robt. M. Langdon, L. I. C. H., 1898.
Chas. G. O'Connor, P. & S. N. Y., 1899.
Geo. Willeck, Bellv. N. Y., 1893.
Annie M. Garnier, Wom. Med. Col., 1893.
Clarence H. Hulse, Univ. Cal., 1893.
Francis M. Burke, Univ. N. Y., 1890.
Frank C. Skinner, Med. Chir. Phila., 1894.

ELECTION OF MEMBERS.

The following were declared elected to membership:

J. W. Parrish, P. & S. N. Y., 1897.
John W. Pierce, L. I. C. H., 1894.
R. G. Manecke, U. State, N. Y., 1893.
C. F. Yerdon, Univ. Balt., 1897.
C. J. Pflug, N. Y. Univ., 1895.

V. E. Judson, N. Y. Univ., 1890.
J. H. Gallagher, L. I. C. H., 1898.
W. C. Hagar, L. I. C. H., 1896.
G. J. Tieck, L. I. C. H., 1896.
P. M. Schaffner, P. & S. N. Y., 1896.
W. J. Cullen, L. I. C. H., 1892.

APPLICATIONS FOR MEMBERSHIP.

Chas. A. Haffner, 623 Bedford Ave., P. & S. N. Y., 1896. Proposed by D. Myerle and J. R. Stivers.

Arthur W. Slee, 430 Hancock St., L. I. C. H., 1899. Proposed by F. S. Kennedy and J. H. Hunt.

Chas. O. Tupper, 329 Jefferson Ave., Jefferson Med. Col., 1886. Proposed by J B. Bogart and H. P. de Forest.

SCIENTIFIC BUSINESS.

"Abdominal Section. Some points in the Management of Difficult Cases." By L. Grant Baldwin.

Discussed by A. J. C. Skene, W. B. Chase, and closed by L. Grant Baldwin.

REPORT OF HISTORICAL COMMITTEE.

1. "Medical Men as Factors in History." By Homer L. Bartlett.

2. Report of Secretary of Historical Committee. By Wm. Schroeder.

The report was accepted and referred to the Editor of the Brooklyn Medical Journal for publication.

REPORT OF COMMITTEE ON PUBLIC HEALTH.

E. H. Bartley, Chairman of Committee on Public Health, brought up the question of the Water Supply of Brooklyn and stated that in view of the fact that the water supply was being so much discussed in the papers at present and is a matter of such paramount importance to the public health, the committee thought that medical men should be well informed on this whole matter, and recommended: That a special meeting of the Society be arranged for some time in the month of June, at which gentlemen of acknowledged reputation on water supplies should be invited to present the different phases of the subject.

Homer L. Bartlett moved that the recommendation of the committee be adopted and the officers of the Society be requested to carry out the same. Seconded and carried.

UNFINISHED BUSINESS.

The Secretary reported the acceptance by Council of the By-laws of the Ophthalmological Section, and the establishment of such section.

Also, that W. A. Northridge had been appointed as Editor of the proceedings of the Pediatric Section.

On motion adjourned.

D. MYERLE,
Secretary.

HISTORICAL DEPARTMENT.

BROOKLYN MEDICAL SOCIETY.

Read before the Brooklyn Medical Society, February 16, 1900.

The selection of a name for an organization, in many cases, is decided by its relation to some important event in history; to some person who has achieved renown; or to the town or place in which its meetings are held. The last we find to be true in the case of the Brooklyn Medical Society. In organizing the physicians of this city into an association the name Brooklyn would naturally present itself as the distinguishing mark of this medical society.

Before sketching the history of the Brooklyn Medical Society let us glance for a minute at the history of Brooklyn itself.

The name originally conferred by the Dutch was Breucklen (or broken land) which was later changed by the act dividing the province into counties and towns, passed November 1st, 1685, into Breucklyn, by which title the town was known until after the Revolution, when the present form of Brooklyn was generally adopted.

The motto of the city of Brooklyn, inscribed upon its seal, and adopted by this society, was "Een dracht maakt macht," which literally rendered means that "Unity Makes Might," or

"In Union There is Strength." This was the motto of the United Provinces of the Netherlands, and many of the coins issued by the United Provinces at the time of the Dutch Republic bear the legend "Een dracht maakt macht," or its Latin equivalent, "Concordia facet fortes."

The village of Brooklyn was incorporated in 1816, with a population of 4,500. The city of Brooklyn was incorporated in 1834, having at that time a population of 23,310. Williamsburg was incorporated as a city in 1851, with a population of 96,838. It is pleasant to note that the first mayor of Williamsburg was a physician, Dr. Abram J. Berry.

Brooklyn, Williamsburg, and the town of Bushwick were consolidated in 1854 into the city of Brooklyn, with a population of 205,250. With the recent consolidation of the city of Brooklyn with the city of New York you are all familiar.

About the year 1845 a number of physicians organized what was known as the Brooklyn Medical Society. Among the organizers were Drs. Andrew Otterson, Samuel J. Osborn, Joseph B. Jones, John Byrne, John Ball, Joseph E. Clark and A. N. Bell. During the existence of this society the office of President seems to have been divided between Andrew Otterson and Joseph B. Jones. The meetings of the Brooklyn Medical Society were held in the Brooklyn Institute, on Washington street, on the second and fourth Monday of each month; the annual meeting being held on the second Monday of November.

As the physicians who organized the Medico-Chirurgical Society of Brooklyn, on December 10th, 1856, were the same as those connected with the Brooklyn Medical Society, the year 1857 may be considered as the last year of the existence of the Brooklyn Medical Society, as the name does not appear in any of the city directories after that date.

In the year 1845 there were in practice in the city of Brooklyn about 175 physicians, practicing various systems of medicine. In 1858 this number had increased to 275, while to-day we have in this borough about 1600 physicians, of whom about 1400 belong to the regular school of medicine.

These historical facts are presented by way of introduction to the consideration of the present Brooklyn Medical Society. While we do not at all times feel inclined to honor one individual as the founder of a society, it is often true that some one does most of the preliminary work in its organization, and continues to be the moving spirit and main power of the association. In the formation of the present Brooklyn Medical Society the moving spirit, through whose personal efforts the organization came into existence, was Albert Harrison Brundage, A.M., M.D., Ph.G., Phar.D. On the 28th of December, 1894, Dr. Brundage issued a call to a number of physicians to meet at the Central Throat Hospital and Polyclinic Dispensary, on Howard avenue, near Broadway, Brooklyn, N. Y.

The reasons given for the call were that physicians in that part of the city had long felt the need of a medical society in that section. The meetings of the County Medical Society were held so far away from there that much time was consumed in reaching and in returning from the meetings. Distance also made the consulting of the Society Library quite inconvenient.

Another reason for the formation of this society was the fact that some physicians, who in private conversation ably discussed medical topics, when asked why they did not express themselves in papers or discussions in the meetings of the County Society, replied that they were deterred from so doing in a large society because they would make themselves conspicuous before college professors and other leaders in medical practice in this city. A small local society, Dr. Brundage thought, would overcome these objections, and as President of the Medical and Surgical Staff of the Throat Hospital and Polyclinic Dispensary, he was enabled to arouse a certain interest in the formation of a local medical society.

On the date above mentioned—December 28th, 1894—the physicians to whom a call had been sent by him, being his hospital associates and others who had manifested an interest in the matter, met and organized the Brooklyn Medical Society, with the following members:

Albert H. Brundage, M.D.; H. Fred. Adams, M.D.; John T. Gibbons, M.D.; Stanley G. Clarke, M.D.; John H. Droge, M.D.; Christopher D. Kevin, M.D.; William A. Myers, M.D.; Edward C. Pruss, M.D.; John G. Dickert, M.D.; Charles H. L. Moseley, M.D.; Herman L. Armstrong, M.D.; B. F. M. Blake, M.D.; John C. Cardwell, M.D.; Henry O. Carrington, M.D.; George C. Crawford, M.D.

A Constitution and By-Laws were drafted, and the following officers elected for the first year:

President—Albert Harrison Brundage, M.D.
Vice-President—H. Fred'k Adams, M.D.
Secretary—Christopher Daniel Kevin, M.D.

Treasurer—John T. Gibbons, M.D.

Librarian—B. F. M. Blake, M.D.

Trustees 1895-97—Albert H. Brundage, Henry Frederick Adams, John T. Gibbons.

Trustees 1895-96—Stanley G. Clarke, Herman L. Armstrong, William A. Myers.

Trustees 1895—B. F. M. Blake, John H. Droge, Christopher D. Kevin.

The object of the society was declared to be "the cultivation of medical science, and the promotion of friendly intercourse among members of the medical profession."

It was unanimously agreed that in organizing this society it was not intended in any way to reflect upon or conflict with any other medical society, and the meeting nights were so selected as not to anticipate nor conflict with that of the County Medical Society.

From its start the Brooklyn Medical Society appears to have been a success. Its first meetings were held in the Hospital building, later on at the northwest corner of Broadway and Gates avenue, where they were held until May, 1898, at which time the Society removed to its present meeting place, the Hart building, 1030 Gates avenue, southwest corner of Broadway.

The following physicians have held the office of President: Albert H. Brundage, A.M., M.D., Ph.G., Phar.D., 1894-95-96; Fred. Granville Winter, M.D., 1897; Peter Scott, M.D., 1898; Jacob Fuhs, M.D., 1899; James Warren Ingalls, A.B., M.D., 1900.

The Society was incorporated June 12th, 1895.

Have not the advances made by this Society during the five years of its existence been of such a character as to make those who assisted at its organization feel that their efforts have not been without good results, and these results of sufficient importance to cause them to look forward to a bright and prosperous future? To the original fifteen members there have been added during the five years about one hundred and fifty more members. Of this number there have been called upon to lay down the burden of life and join the great majority, the following: Henry Loewenstein, M.D., June 10th, 1897; George S. Little, M.D., Nov. 30th, 1898; James Little Kortright, M.D., August 14th, 1899; George Schmitt, M.D., January 11th, 1900.

There have been presented to this Society about one hundred papers upon different medical and surgical subjects. These papers were well discussed by the different members of the Society, and not a few have been published in different medical journals. There have also been presented a large number of cases and pathological specimens.

The promotion of friendly intercourse among those who attend our meetings is, in the writer's estimation, what is most needed among physicians. Living, as we do, in an age of progress, with a strong desire to accumulate a large amount of money, we sometimes forget that there are others who are engaged in the same cause and who are looking for the same results, but who may be unable through some burden that may have been placed upon them, to keep up with the march; to such more than to others we should extend the hand of friendship. Strive, then, to cultivate the spirit of harmony, not alone in your meetings, but when you meet each other in the different walks of life. This will prove to the world at large that the profession has but these objects in view: the betterment of the condition of mankind, the alleviation of pain and sorrow, and the prolongation of human life.

If these are the objects of this Society, it should commend itself to every physician in this city, for as I have often said, the average life of a member of our art in this city seems to be but fifteen years of professional activity; but those years ought to be lengthened into thirty and could be if each one of us would do his part.

In conclusion let me say that I believe that the work of the Brooklyn Medical Society is but in its infancy, and that there is a bright future before it. May it then receive the encouragement of all its members so that the work in which it is engaged for the benefit of the profession and of the community at large may assume such proportions that every physician in this section of the city shall feel its influence, and unite with it in assisting to make the Society as great and honorable as the city, and commensurate in its extended influence with the name of the city which you have made your own.

WILLIAM SCHROEDER, M.D.,
Chairman of Historical Committee.

FRED. G. WINTER, M.D.

PETER SCOTT, M.D.

AMOS H. BRUNDAGE, M.D.

JACOB FUHS, M.D.

JAMES W. INGALLS, M.D.

PRESIDENTS OF BROOKLYN MEDICAL SOCIETY.

JOHN JONES M.D.

JOHN JONES, M.D.

It may be interesting to the medical profession on Long Island to know something of the physicians and surgeons who have been born on the island or those who have practised our art among us in years gone by. As opportunity offers, during the coming year, we shall try and present a portrait and sketch of medical men who have added lustre to our profession here and elsewhere.

Dr. John Jones was born at Jamaica, Long Island, in 1729. He was the son of Dr. Evans Jones. He began the study of medicine under the preceptorship of Dr. Thomas Cadwalader in 1747. After completing his studies in this country, as was the custom in those days, he went to Europe in 1751, receiving the degree of M.D. from the University of Rheims. He attended the anatomical lectures of Dr. Petit of Paris, and spent some time at the Universities of Leyden and Edinburgh. Returning to the United States, he first settled in New York City. In the war of 1775 he served in the Colonial army against the French. At the close of the war he resumed his private practice. On the establishment of the medical department of the Kings College in New York in 1767, he was appointed professor of surgery, and gave several courses of lectures.

In 1770 he was one of the petitioners for a charter for the New York Hospital, which was granted by King George III., and attending physician to the Hospital from 1774-1791.

In 1780 he settled in Philadelphia, Pa., and became the family physician of Washington and Franklin. He served on the medical staff of the Pennsylvania Hospital from 1780 to 1791. He was a member of the American Philosophical Society; President of the Humane Society, and in 1786 Vice-President of the College of Physicians. In 1775 he published "Plain Remarks on Wounds and Fractures" for the use of surgeons of the army and navy, printed by John Holt of New York, also by Robert Bell of Philadelphia, Pa., 1776. This was the first medical book written by an American physician. Dr. Jones was distinguished as a successsful lithotomist and accoucheur, and was generally considered the foremost American surgeon of his day. He died June 23, 1791.

William Schroeder, M.D.,
Secretary of Historical Committee.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

Following an examination recently called by the Civil Service Commission, Dr. J. T. Duryea, Medical Superintendent of Kings County Hospital, was promoted on May 1st to the position of General Medical Superintendent of Hospitals in the Department of Public Charities, Boroughs of Brooklyn and Queens.

The successful candidates for positions as internes in the Brooklyn Hospital were: Frederick C. Eastman (L. I. C. H.), Geo. L. Buist, Jr. (Yale), Herman C. Pitts (Yale), Claude G. Clark (P. and S.), Morris Packard (Syracuse), alternate.

At the Norwegian Hospital were appointed, P. E. Menke (P. and S.), Bernard A. Fedde (Bellevue).

The incoming staff of internes at Kings County Hospital will be: John L. Atlee (Univ. of Penn.), William Alsever (Syracuse), Charles E. Price (Jefferson), James H. Baldwin (Univ. of Penn.), George Simrell (L. I. C. H.), and Fred. Coonley (Yale). The alternates are Oscar Torian (Univ. of Penn.), Francis Duffield (P. and S.), Chas. S. Cochrane (L. I. C. H.), Wm. L. Karcher (Medico-Chirurgical).

The latest medical society formed is probably the pioneer in its field, but the announcement of its existence should tend to the inauguration of others of its kind. The present house staff of Kings County Hospital, consisting of twelve, with the Assistant Superintendent, Dr. C. B. Bacon, has organized the Kings County Hospital Staff Medical Society, meetings being held every other Saturday evening, at which papers are read and discussed. The House Surgeon is ex-officio President. The Society has already proved most interesting and of positive value to its members.

Brooklyn was represented at the Medical Congress in Washington by Drs. McNaughton, G. R. Fowler, West, Clayland, Wm. Browning, Pilcher, Barber, and Charles Jewett. There were a number of others intending going, who were prevented.

There will probably be but few physicians from this borough at the International Medical Congress in Paris. Drs. D. W. Waugh and E. A. Lewis sailed for Europe in April, but may not attend the meetings. Drs. George R. Fowler and T. M. Lloyd will sail the 19th of June, and will join a party of medical men in Norway for the North Cape trip. Dr. Wm. Francis Campbell starts about July 21st to represent the Medical Society of the State of New York at the Congress.

The Brooklyn Society for Neurology had the honor of being the first to hold a meeting in the section room of the new building of the County Society. The program was made especially interesting by a paper by Prof. F. W. Langdon of Cincinnati, entitled "Some Clinical Problems Concerning Nervous Diseases." The Society, with Dr. Langdon and representatives from the County Society and the Associated Physicians of Long Island as guests, enjoyed a most sociable time at a supper at the Union League Club after the meeting.

The Board of Trustees of the Eastern District Dispensary and Hospital showed their appreciation of the work of the physicians connected with that institution by tendering them a banquet at the Hanover Club on the evening of April 25th. Many prominent business men and physicians not connected with the hospital were present.

The new pavilion for surgical operations of the Methodist Episcopal Hospital, work upon which has occupied the whole of the past year, is now completed, and will be open for the inspection of the profession after June 1st. Public clinics will be held in it regularly thereafter on Wednesday mornings and Saturday afternoons, to which all physicians will be cordially welcome.

Dr. John M. Holt of Macon street, who was commissioned Assistant Surgeon in the United States Marine Hospital Service in July, 1899, was stationed at St. Louis until December, then transferred to Cairo, Illinois, where he is now medical officer in command.

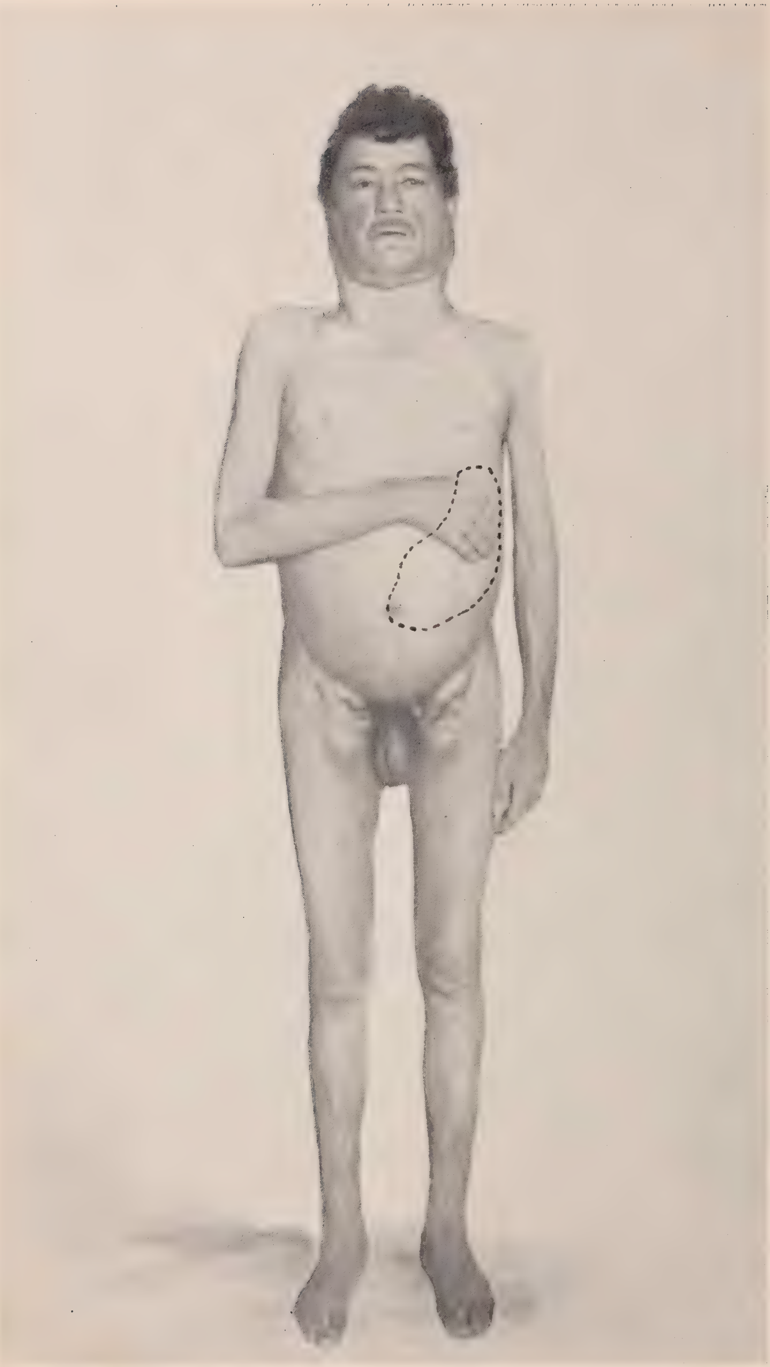
Dr. Burt D. Harrington of Lenox Road was married April

26th to Miss Bess Marion Ahlers, daughter of Mr. and Mrs. Hermann Ahlers of Flatbush.

Dr. Wm. J. Spellman died April 20th, and Landon Carter Gray, Professor of Nervous and Mental Diseases in the New York Polyclinic, who for many years practiced in Brooklyn, died May 8th.

A special meeting of the Medical Society of the County of Kings will be held in June for the discussion of questions connected with the water supply of Brooklyn. Gentlemen of high reputation in this branch of science will be invited to present different phases of the subject. The meeting should prove of great interest to intelligent citizens as well as to the medical profession.

The membership committee of the County Society, under the chairmanship of Dr. H. P. de Forest, has taken up its work after a new plan. The county has been divided into nine districts, each district being assigned to the supervision of the committee residing within its limits. The committee consists of: James M. Downey, 381 Clinton street; Sewall Matheson, 578 Bergen street; Chas. E. Clark, 259 Lorimer street; Geo. W. Colby, 142 Putnam avenue; Alfred Bell, 287 Irving avenue; Eugene P. Hickok, 114 Pennsylvania avenue; John B. Zabriskie, 2103 Church avenue; Edward D. Ferris, 220 Fifty-third street; and John O. F. Hill, Neptune avenue, Coney Island. The work of this committee will be to effect an accurate registration of all medical practitioners in the county, and to record everything of importance as to the status of Brooklyn physicians. An energetic effort will be made to secure the co-operation of all reputable physicians in the work of the County Medical Society.



PSEUDO-LEUKEMIA OR HODGKIN'S DISEASE.

Presented by Henry P. de Forest, Ph.B., M.S., M.D.

The dotted line indicates the outline of the spleen.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 410th Stated Meeting, Thursday, January 11, 1900.

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION IV.—JAMES P. WARBASSE, M.D., CHAIRMAN.

Pseudo-Leukemia or Hodgkin's Disease (Illustrated)..... **477**
Henry P. de Forest, M.D.

Pseudo-Leukemia or Hodgkin's Disease.................. **483**
John D. Sullivan, M.D.

Peculiar Phases of Influenza Observed in the Present Epidemic.. **486**
J. Edward Herman, M.D.

Dermoid Cyst of the Ovary; Specimen.................... **494**
H. Beeckman Delatour, M.D.

Renal Calculus, Passed through Urethra; Specimen and History (Illustrated).................................... **496**
John R. Stivers, M.D.

Contracted Gall-Bladder; Biliary Calculi; Specimens and History.. **497**
Russell S. Fowler, M.D.

Bilary Calculus, Removed from Liver; Specimen and History (Illustrated).................................... **498**
Edgar A. Day, M.D.

Pseudo-Leukemia or Hodgkin's Disease (Illustrated).

Henry P. de Forest, Ph.B., M.S., M.D.

In 1832 Hodgkin, a London physician, directed the attention of the medical profession to a series of symptoms sufficiently peculiar and well differentiated to merit their complex being recognized as a separate disease. He supported his theory by the report of a number of cases which had come under his observation as pathologist to Guy's Hospital in London.

So careful were his observations and so logical were his conclusions that the disease which he described has since then been generally recognized under the name Hodgkin's disease, and is now defined by Osler to be "an affection characterized by progressive hyperplasia of the lymph glands, with anemia, and occasionally the development of secondary lymphoid growths in the liver, spleen, and other organs."

Synonyms.—The disease has also received the name of *pseudo-leukemia, general lymphadenoma, adénie* and *lymphosarcoma.*

The *etiology* of the disease is still obscure. It is more common in persons less than 35, and three-fourths of all cases reported have been males.

It is not my purpose to enter into an extended discussion of the pathology and symptoms of the disease. That can be found in any of the recognized standard works on Practice. The opportunity seems a favorable one, however, to add to our literature another case of this disease of the blood and ductless glands, and to show two photographs that I made of a patient who came under my care while House Surgeon in the Methodist Episcopal Hospital.

The history briefly is as follows:

Mr. L. R., an Italian laborer, 27 years of age was admitted to the hospital February 25, 1891.

This man, so far as can be learned, has usually been strong and well till during the last summer. Late in the summer he began to be sick, and in August he was compelled to give up his work altogether. There was first noticed a small tumor in the inferior maxillary region, then other masses began to appear in the various regions of the body where there are superficial lymphatic glands.

As he speaks no English subjective symptoms are difficult to elicit.

Admitted to ward on full diet.

February 26th.—Examination shows enormous enlargement of the superficial lymph glands of the entire body. In the popliteal region are several small masses about the size of a pea. In the groin the glands are about the size of a pigeon's egg and hard. There are large masses on the right side and on the left.

Presure above Poupart's ligament shows a similar enlargement of the deep inguinal glands. The axillary glands are also greatly enlarged. The epitrochlear glands are very apparent even by inspection; they are enlarged on both sides. In the neck the anterior and posterior cervical glands are enlarged and extend in rows up and down the neck. At the angles of the jaw they are larger than at any other locality and are so large that they give his head a triangular appearance when viewed from the front. The glandular masses extend across the neck as far forward as the symphysis menti.

The pressure of the enlarged glands causes him considerable dysphagia and he has a hoarse cough with profuse expectoration. There is as yet no difficulty in breathing. The spleen is very much enlarged and can be distinctly felt through the thin abdominal walls. It extends from the eighth rib down to one-half inch below the umbilicus and its ventral border is about at the line of the nipple. Its outline is irregular and its substance is quite hard.

The lungs are normal. Heart shows a systolic murmur at apex; pulse is dicrotic. The area of liver dulness is greatly increased. Auscultatory percussion shows a great enlargement of its normal size.

March 1st.—Ordered liq. potassi arsenitis. ♏viij., t. i. d., to be increased ♏j. at every dose.

March 3d.—He is now hardly able to speak, save in a whisper, and there is considerable dyspnea with cyanosis. It is suggested that the mediastinal glands may press on the recurrent laryngeal nerve and cause partial or complete paralysis of the vocal cords and the laryngeal muscles.

Blood Examined by Dr. Hodenpyl.—Reichert's hemoglobinometer shows that there is only about 60 per cent. of hemoglobin present.

Red blood corpuscles (Zeiss hemacytometer) av. two counts 1,154,000.

Leucocytes, av. two counts, 139,000.

Proportion is therefore: : 12:1.

March 4th.—Larynx and throat examined by Dr. de Forest. Although the larynx and trachea can be well seen the vocal cords do not appear, and attempts at phonation give only a hoarse whisper. Examination is especially difficult on account of the hypertrophy of the tonsils and uvula, and the presence of profuse expectoration. His tongue, too, seems to be unusually large.

Allowed clothes.

March 13th.—The dyspnea is steadily increasing. The face is purple apparently from a pigmentary deposit in the skin and not from cyanosis, as his finger-nails are normal in color.

Ordered: pilicarpine nitrate gr. $^1/_{20}$, q. 4 h., to ease the expectoration. He has had several attacks of extreme difficulty in breathing lasting for a few minutes.

Red blood-cells recounted; 2,300,000 found, and 120,000 leucocytes.

March 17th.—Complains of pain in the neck and along the course of the trachea. The *pomum Adami* is depressed on account of the enormous growth of the cervical glands on each side. Opiates are given daily to relieve his distress.

March 18th.—Was very restless and slightly delirious, expectorated considerable blood during the morning, and at noon suddenly died.

AUTOPSY.

BODY.—Moderately emaciated. Very considerable enlargement of all of the superficial lymph glands, especially those of the axillæ and of the iliac regions. The neck is swollen to twice its natural size on account of the enlarged glands and measures 19¼ inches in circumference.

THORAX.—There are a few adhesions over both lungs but no fluid. The pericardial sac contains a good deal of clear serum.

Esophagus normal. *Epiglottis* very considerably thickened and contains several small, dense nodules, some of which are ulcerated.

Larynx shows on its interior large areas of ulcerations and the mucous membranes are thickened and ulcerated. The *trachea* is congested along its entire length and contains muco-pus; at its bifurcation there is a group of nodules which diminish its lumen.

Lungs look normal to the naked eye.

Heart.—Muscle pale (amyloid); aortic valves normal but the aorta is unusually small in caliber. There is a slight thickening of the mitral valve and the papillary muscles leading to it are somewhat contracted. Right heart is normal.

Abdomen—Spleen weighs 1600 gm., very dense, and there is an enormous increase in the connective tissue (chronic interstitial splenitis, with areas of lymphoid tissue, small in size but numerous.

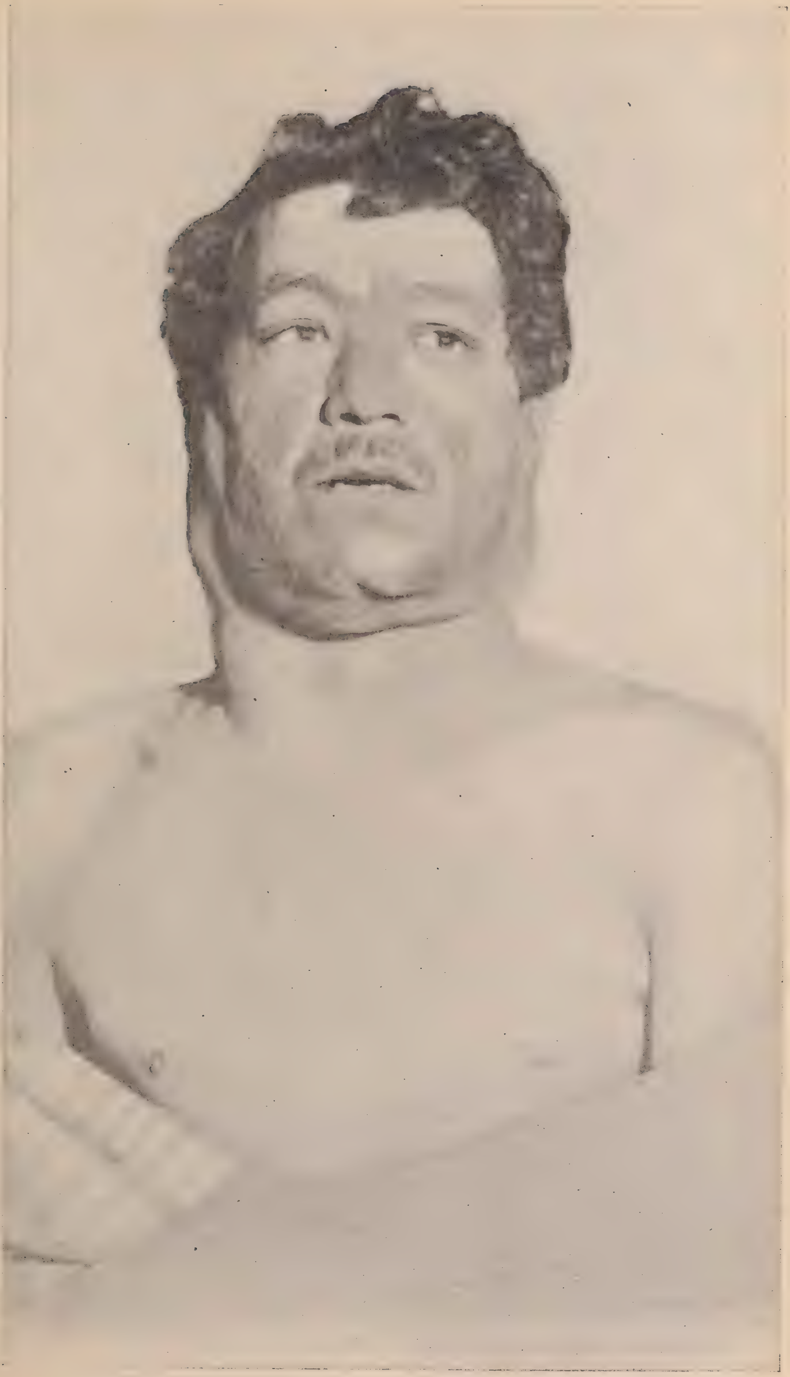
Pancreas is surrounded by a large number of lymph nodes, many of which are as large as an orange. Pancreas is of normal size, unusually pale and shows fatty degeneration.

Liver is large, cut surface looks as if there is a moderate cirrhosis. The gall-bladder is somewhat enlarged. Surrounding the common duct is a mass which on gross section presents the appearance of carcinoma.

Kidneys.—The right kidney is considerably enlarged; capsule is adherent; surface fairly smooth; cortex greatly thickened, but the markings are fairly distinct. (Large white kidney.)

The left kidney is small; flattened by pressure and is largely converted into fibrous tissue.

Stomach.—Mucous membrane rather pale and is moderately thickened about the pylorus.



PSEUDO-LEUKEMIA OR HODGKIN'S DISEASE.

Presented by HENRY P. DE FOREST, Ph.B., M.S. M.D.

Intestines.—Peyer's patches swollen. Solitary follicles of the large intestine are swollen. Great increase in all lymphoid tissues.

Brain is edematous; brain tissue is very soft; vessels at the base are normal.

Retro-peritoneal glands and those of the mediastinum are enormously swollen and firm.

Diagnosis.—Hodgkin's disease.

Another patient suffering from the same disease came under my care some years later in the summer of 1898. Her history is as follows:

Mrs. C. McC., an American woman, 26 years of age.

Family History.—Parents live and are well. Grandparents neither of them had any glandular disease. Negative in all respects.

Personal History—Always well; menstruation at thirteen; twenty-eight-five-days' type; no pain; flow free. Married four years ago. One child, two years old. Normal labor. Child alive and well. Unable to nurse; no milk.

Present Illness.—First noticed swelling of axillary glands six months before child was born. Did not increase during pregnancy, but did enlarge materially soon after. The neck was next involved and then breasts. Inguinal glands not at all affected.

A year ago was treated with electricity for three months. No benefit apparent.

Blood examined several times by former physician. Results unknown.

Glandular growth continues to increase in size.

Status Præsens.—Condition typical of Hodgkin's disease. Submaxillary and lateral cervical glands enormous in size. The axillary glands are in two masses as large as the clenched fist. Both breasts are swollen, thickened and the skin over them is thinned and shiny, especially in a segment of 90° directly beneath the nipple.

The upper segment of the breast and chest and lower part of neck is generally enlarged; the glandular masses running into one another.

In the abdomen both liver and spleen are greatly enlarged, and the free borders of each can be plainly palpated. They reach on each side to the crest of the ilium and nearly to the umbilicus.

The lungs show coarse bronchial breathing over both sides but especially marked in the left upper lobe.

The heart sounds are all clear and regular, but the apex and whole organ is displaced to the left, probably by mediastinal enlargement.

The inguinal glands are not at all involved nor does the mesenteric chain appear to be affected.

Arms and legs are greatly emaciated.

Appetite and digestion good, but "does not seem to get any benefit from what she eats." No pain nor tenderness save over gall-bladder. No headache.

Within the past two weeks considerable hoarseness has developed with irritable cough (the result of pressure on laryngeal nerves?).

Extreme anemia.

Dr. L. S. Pilcher, who sent the case to me, had been giving arsenic to point of tolerance, general puffiniess, etc., gr. $^1/_{10}$, t. i. d. This has done no good and has been reduced to gr. $^1/_{20}$, t. i. d.

Hemanalysis.—Fresh blood flows slowly, coagulates quickly. Hemoglobin, 60 per cent. Erythrocytes, 3,000,000; corpuscles distorted; moderate poikilocytosis. Leucocytes: 100,000; marked leucocytosis. Differential count not made.

Subsequent History and Treatment.—An easily assimilated preparation of iron was administered and the arsenic continued, with all endeavors to support strength and nutrition.

The following week I entered military service and upon my return found that the patient had died during my absence. There was no autopsy.

Both of these cases are typical examples of the disease as Hodgkin described it. In both death occurred, with practically little benefit from treatment. Arsenic, the one drug which is recommended by practically all medical authorities, was tried faithfully, but with no appreciable benefit, and the anemia persisted and increased.

The substance of the whole matter is this: the exact etiology of the disease is unknown; the symptoms, diagnosis, and differential diagnosis are well recognized; the prognosis is nearly uniformly fatal; treatment, no matter by whom, in the absence of a well-known cause, is uncertain, unsatisfactory and of little value save to relieve such symptoms as can be helped by surgery or by anodynes.

369 Hancock Street.

Pseudo-Leukemia or Hodgkin's Disease.

John D. Sullivan, M.D.

The patient whose history I shall present suffered from a well-marked pseudo-leukemia. He incidentally presented another pathological condition—intussusception of the intestine, the immediate cause of his death, a history of which was published in the April number of the BROOKLYN MEDICAL JOURNAL of the current year.

George M.—Aged 34 years. Truck driver. Married, has three children. Admitted to St. Mary's Hospital on April 24,

1899. Family history good. He always enjoyed good health up to the present illness; never had any venereal disease. In the early part of March, 1899, he began to have derangement of his digestive organs with pain in his stomach. He rapidly lost flesh and strength. At the end of two weeks he noticed a small lump on the right side of his neck under the angle of the inferior maxilla, which was painless and had no signs of inflammation.

The tumor increased rapidly in size until it occupied the entire right side of his neck from the ear to the clavicle and extended across the median line to the left side.

On admission to the hospital his temperature was 102° F.; pulse 120, and feeble. He suffered considerably with dyspnea and dysphagia. These symptoms appeared to be caused by pressure on the larynx and esophagus, and he urgently implored relief. Under local cocaine anesthesia I made a perpendicular incision over the tumor and removed a mass of enlarged glands which were moderately firm in consistence and so free from adhesions that they were easily shelled out. The wound was loosely packed with iodoform gauze. After the operation the patient breathed freely and swallowed without difficulty.

About a week later it was observed that the lymphatic glands on the left side of his neck, and in the axillæ were enlarged. The lymphatic glands in the groin, also, became involved, and these with the cervical and axillary glands continued to increase in size; the dyspnea and dysphagia returned. The patient continued to emaciate rapidly; his temperature ranged from 100° to 102°, and his pulse became more feeble and rapid. About June 8th obstinate constipation supervened, soon followed by vomiting and tympanites. He grew worse rapidly and died on June 11, 1899, within four months after the inception of the disease.

The post-mortem examination showed that the immediate cause of death was intestinal intussusception.

Autopsy: General Appearance.—Frame large, body greatly emaciated. Large tumors on both sides of his neck. Glandular enlargement in both axillæ and in the inguinal region of both sides.

Thorax.—Left lung, large; hypostatic congestion. Right lung, small; right pleura covered with fibrin; right pleural cavity contained considerable serum.

Heart.—Somewhat small and pale; otherwise normal. Mediastinal and bronchial glands very much enlarged.

Abdomen.—Large intestine and a portion of the small intestine greatly distended with gas. About the middle of the ileum an intussusception was found. The portion of the ileum above the intussusception was greatly distended while the part below was dark-brown, shrunken and flabby. A constriction was found at the sigmoid flexure and the gut below it was flabby and congested.

Mesenteric glands throughout were considerably enlarged. Stomach normal. Liver normal in size and color. Gall-bladder distended and contained a few gall-stones. A large mass of glands found directly under the diaphragm in the region of the receptaulum chyli.

Spleen.—Enlarged and congested; consistency hard; capsule adherent; parenchyma coarsely granular on cut section.

Both kidneys enlarged, capsules adherent, some cicatricial points on surface of right one.

Pancreas enlarged and congested.

A microscopic examination of some of the enlarged lymphatic glands was made and they were found to be largely composed of the small round cells characteristic of certain forms of sarcoma.

This case is one of special interest from several points of view. While Hodgkin's disease is comparatively rare, it occurs sufficiently often to engage our earnest attention and incite us to promote a more thorough knowledge of its pathology.

Its cause is obscure; its pathology still disputed; and that it is a malady which is difficult to diagnosticate is proven by the various names or terms applied to it in medical and surgical literature. In 1832 Dr. Hodgkin of Guy's Hospital first called especial attention to the subject in a paper before the Medico-Chirurgical Society of London, entitled "On Some Morbid Appearances of the Absorbent Glands and Spleen." Some of the cases which he then described were undoubtedly examples of tubercular glands, but it is still maintained that four, at least, were instances of the disease which now bears his name. Subsequent other cases were recorded in England by several observers, and in 1856 Wilks reported a number of cases of enlarged lymph-glands with growths in the spleen associated with anemia but without any leukemia; and again in 1865 this observer published additional cases, and gave the name of "Hodgkin's disease" to the affection now under consideration.

In Germany, Virchow described similar cases under the term of "lympho-sarcoma" and in his work on tumors gave a full account of the histology, of the disease. Billroth gave the term malignant lymphoma to these enlarged glands to distinguish them from local non-infective lymphomata. In France, Trousseau described the disease under the term of "adénie," and Ranvier used the term "lymph-adénie." The disease has also been described as anemia lymphatica, adenoid disease, pseudo-leukemia and general lymphadenoma, while other writers on the subject declare that there are, at least, three separate and distinct diseases included in the various terms. Nicholas Senn in his excellent work upon the "Pathology and Surgical Treatment of Tumors" states that "in no department of surgical pathology do we meet with more confusion than in the differentiation between benign and malignant tumors, and infective swellings of the lymphatic glands." He states that enlargement of the lymphatic glands may be due (1) to infection, (2) to sarcoma, (3) to carcinoma, (4) to lymphoma, and describes the disease, which I have reported as a primary sarcoma of the lymphatic glands—lympho-sarcoma—the tumor tissue being composed of small round cells which are imbedded in an exceedingly delicate reticulum.

The characteristic features of the disease are the successive enlargement of the glands of the region occupied by the primary tumor, followed by metastasis without leucocythemia, but well-marked anemia, rapid emaciation and cardiac weakness.

The prognosis is very grave. Medical treatment thus far has been of but little value. The administration of arsenic is about the only remedy which has appeared to be beneficial in retarding its progress. If seen and recognized sufficiently early, extirpation of the primary seat of the disease offers the best hope for saving the patient's life. But recurrence after extirpation thus far has been the rule.

74 McDonough Street.

Peculiar Phases of Influenza Observed in the Present Epidemic.

J. Edward Herman, M.D.

During the present winter the series of cases of epidemic influenza that I have seen, particularly those in the section of the city in which I reside, have been characterized by certain symptoms and phenomena, not new in themselves, but occurring so much more frequently now than in former epidemics that I have thought the subject worthy of presentation before this Society.

I have noticed, in the first place, in this epidemic that la grippe is the most infectious disease with which I have any acquaintance. I collected all the cases that I have attended in which this diagnosis was made. In no one of the numerous families was there only one patient sick; in fact, in every single case if one patient in the household suffered from la grippe there were sure to be other patients. I think that could not be said of any other infectious disease.

I have also noticed in about 60 per cent. of the cases that I have seen, blood has been passed, either within the sputum or, in cases of intestinal grippe, in the bowels, or in other cases in the nasal secretion; sometimes quite a large quantity of blood. The cases as a rule come on like a flash; the period of incubation is extremely short. Blood is frequently passed during the first few days after falling sick.

One case in particular illustrates this fact mentioned. A woman expecting to be confined in five or six weeks suddenly collapsed while doing some housework; I saw her a few hours afterward. When seen the following day a basin was standing by the bedside, and its entire bottom was covered with pure blood and mucus in about equal proportion. I was anxious to examine the sputum and I told the nurse not to throw it away, but after examining the patient I found I had been misunderstood and the basin had been emptied. As showing how quickly some of the cases come and how quickly the patient will throw them off, in this case it was absolutely impossible to get another specimen showing any blood. The next day the woman was sitting up and I tried to have her cough up some similar sputum for me but she could not do so. I left a sputum bottle there, and to this day she has never brought up another speck of blood, and she has been perfectly well.

There is another symptom to which I would like to draw attention and one which is not sufficiently emphasized in text-books. There are some cases of grippe in which you will find a membrane which by its appearance you cannot distinguish from diphtheritic membrane. That is not an original opinion of mine and I am not the only man who holds it. The matter was incidentally brought up at the last meeting of the American Medical Association and a number of good observers made the same statement. The same thing has also been observed in England; and a medical officer in the employ of some national medical institution has published the records of 35 cases of grippe where there was a distinct membrane not to be distinguished from the diphtheria membrane; and some of these cases were examined microscopically and no diphtheria germ could be demonstrated.

At the present time, and I suppose at all times within our recollection, the pulmonary manifestation of grippe has been largely located in the trachea. Of course it may lead on to pneumonia, but during the present epidemic I have not seen a case of pneumonia of any kind complicating grippe, although almost every case is accompanied with a cough, sometimes great dyspnea and

and there is also oftentimes a membrane in the trachea. I have noticed that before this year. I remember one case occurring about five years ago in a finely developed man, at one time champion short distance walker of America, Canada and England. When I first called to see him, in a basin by his bedside were membranous casts which nobody could have said were not diphtheritic—long casts, one of them 2½ or 3 inches long. No cultures were taken but clinically grippe and not diphtheria was the disease present. At the present time you will find a great many cases of membrane in the trachea. I had one case recently at Cypress Hills, where I made a mistake in the diagnosis and I want to say right here that I have made more mistakes in the last three months than I have made in all the previous time I have been in practice; you can mistake almost anything under the sun for grippe. In that case I called it scarlet fever; the child had the membrane down in the trachea and for two days I expected any moment to be called to do a tracheotomy, but on the third day it coughed up a large ill-smelling mass, which unfortunately I did not see, and went on to rapid recovery after that. And that brings me to another case which I observed last month in which there was not only severe dyspnea, but in which there was the actual necessity to do tracheotomy, although unfortunately I did it too late to save the child. I first saw this little girl about 7 in the morning. She had been sick for some time with grippe but seemed to be on the road to recovery. When I first saw her there was dyspnea and some stenosis, but the case was so clearly a case of grippe that I did not have much anxiety about it and prescribed as usual. I was called in the evening about 7 o'clock and found the difficulty in breathing much increased. By 11 o'clock that night, calomel fumigation and a steam bath had enabled the child to cough up a number of membranous masses. While previous to that there had been hardly any air entering the lungs; after that the child evinced in every way the improvement which she told me she felt, and I went home very much encouraged. Unfortunately after my departure she became worse and the parents, not very intelligent people, did not call me, and when I got there at half past nine in the morning, an operation was the only hope. Tracheotomy was hurriedly performed, but I hardly incised the skin when the child stopped breathing. Nevertheless, I continued the operation in the hope that we might resuscitate the child, opened the trachea and found a large quantity of purulent material within welling up into the wound. It was removed, inverting the child to facilitate the discharge of it, artificial repiration was kept up for half an hour, but the child stopped breathing and was dead. This was a pure case of grippe, but we might let the proof of that go for a moment until I refer to some of the other peculiar cases which I have seen.

Another subject which I do not think is touched upon in American text-books are the skin manifestations of grippe. In the "Twentieth Century Practice" you will find a very long article by Professor Winckler, but he is a German and speaks from his personal experience; does not refer to anything occurring in America within his knowledge. In his article you will find reference to his cases of skin manifestations. They have been observed not only in Europe, in Germany, but if you will look over the *English Medical Digest* you will find mention of these skin lesions as early as 1890. These eruptions are of many kinds. English observers have noticed eruptions which simulate scarlet fever and measles, and Winckler refers to others. I will confine myself to the lesions I have personally seen.

The great majority of the cases of grippe, especially in children, which we see at the present time, are accompanied with some skin eruption. The majority of them have an eruption which very closely resembles a certain form of measles that has been described as a blotchy eruption. I saw one case which was not measles, which had the largest and most distinctly marked blotches of any case I have ever seen, and if I had not been on the lookout for these cases and known that the neighborhood in which this child lived was infected with the disease, I would have been inclined to call it a case of measles; and besides, the child had a membrane in the throat, fever, etc. I refer to this case for a moment to show that these cases are not of necessity diphtheria which have this membrane in grippe. I made but one call at that case; that was about six weeks ago; to-day I made it my business to call on that family out of curiosity, to make sure that my diagnosis was correct, to find out whether any other child had contracted the disease. With that one call the child got up, the eruption had almost faded away the next morning, the throat cleared up, and the membrane came off.

I pass around a colored plate, which, as near as any picture I could find, illustrates the more common eruption. It is a case of the papillary form of measles. If you will please consider this color a number of shades lighter, so as not to make the marks so prominent, you have a picture of what you will see in these cases. You will find some in which the whole body is covered like this, and again some in which the eruption is confined simply to the cheek.

Another form of eruption closely resembles the form of eruption in scarlet fever; the body is not entirely covered; it may be confined to a small area; it is erythema and you cannot distinguish it from scarlet fever eruption.

Then there is herpes zoster also. I observed one exceptionally well marked case of that in a family in which grippe was prevalent. Now, to show you that I am not simply dreaming, I will just outline the history of this one family. The first indication I had of grippe in that family was when the father came and told me that the mother was suffering from very severe headache. I did not see the woman at that time. The next manifestation we have is a case of herpes zoster in a child about six years old; then there are two more children in the family develop not herpes zoster, but a herpetic eruption, a sort of litho-papillary eruption, and the father of the family, within a few days, has a most beautiful case of influenzal neuralgia and at the point he feels the most pain is found an erythematous spot about three inches in diameter. I will pass this plate around, which is the eruption of herpes zoster, and if I had been able to get a photograph of my case it would be difficult to distinguish between the two; there were even hemorrhagic spots where some of the papules had been irritated. At the right of the picture you will notice some red elevations or papules; that is herpes zoster, each papule about an eighth of an inch in length, and you have a picture of quite a large number of such skin lesions which complicate grippe. They are part of the grippe itself—the red marks. The first child mentioned had pure herpes zoster, an intercostal one, which of course started around between the spine and the median line, a collection of about 50 papules. The other children simply had scattered papules. Whether we call the case of the other two children cases of herpes zoster or urticaria, or whatever you wish, they were certainly infected one from the other.

These three forms about cover the great majority of skin manifestations of grippe. Other lesions may be discovered, but European authorities mainly refer to them, and it is the first time that I have seen them this year.

I would like in closing to refer to my case of tracheotomy, to prove that my diagnosis was correct that it was a case of grippe. The child had this measles eruption before it developed the stenotic symptoms. The nurse who helped take care of this child, who was not a member of the family, within 48 hours from the time the child died, developed symptoms which necessitated her calling for her physician, and from her own story and the history the physician gives me, that woman was cyanotic, and almost suffocated. I did not see her until four days after her illness and she was so hoarse she could not speak. It was from this woman I obtained the sputum from which the grippe bacillus was demonstrated. I forgot to mention that parts of one of the membranes obtained from the tracheotomy case was examined and no diphtheritic germs were found in it. The woman eventually made a recovery. Three days after the death of the tracheotomy case another child two years old developed the measles eruption, which covered the body just as completely as you see it covered in the plate which I have shown. I must not forget to add that in this case the little boy, when the eruption was as marked as this, had not a particle of fever.

My friend Dr. Lanzer kindly prepared the slides showing the grippe bacillus. Besides the bacilli which are well stained his specimens show the degenerative condition of the red blood corpuscles, which is the result of the infection of grippe. One glance at that preparation explains what so greatly puzzled observers in the past; Austin Flint and others have remarked that the constitutional symptoms are out of all proportion to the objective symptoms, but one glance at the degenerated state of the blood cells would make it clear why these patients are so sick and shows that it is a very acute and dangerous infection.

1098 Bushwick Avenue.

DISCUSSION.

The President (Dr. Henry): These points that Dr. Herman has brought out are of such moment that it would be an advantage to us if we were delayed a little later than we usually like to be in discussing them. There are certainly many features which are novel to me. I see a fair proportion of the grippe cases, but there are some symptoms which the Doctor has described which I have never seen. I have treated some that had the characteristic features of the measles, but without the characteristic features of the grippe, and I have diagnosed them as measles and handled them as cases of measles and they recovered; whether I was mistaken in my diagnosis, or whether the eruption was due to grippe is an interesting point; certainly these unusual features are things we ought to bring out as clearly as posible and weigh them.

Dr. de Forest: Mr. President, it seems to me this whole matter depends upon an accurate diagnosis. It is to be remembered that some of the conditions which have been mentioned as easily confounded with grippe are susceptible of accurate diagnosis.

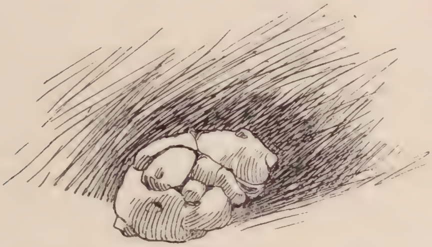
So far as the presence of membrane is concerned, I can quite agree with the Doctor's statement, because within the last week I have seen two children, each about five years of age, in both of whom there was a membrane upon the tonsils. In the first case every other member of the family had an infectious disease presenting a variety of symptoms, but all undoubtedly grippe in some of its manifestations. The boy of five when taken sick had the intense congestion of the pharynx, with a well-marked whitish membrane which to the naked eye did not look like a diphtheritic membrane. I took a culture, however, as a matter of precaution and had it examined; no diphtheria bacilli were found and I did not give antitoxin; I did not believe it was anything but grippe and treated him for grippe. The child made a good recovery. But a neighbor's child, taken sick about the same time, had a membrane which to the naked eye seemed to be diphtheritic, which examination proved to be diphtheritic, and which antitoxin cured in twenty-four hours. The membrane entirely disappeared and the child's temperature subsided, and in three days she was apparently as healthy and well as ever. As Dr. Herman knows, I do not agree with him on the antitoxin question.

The brother of the first-mentioned child with the tonsillar membrane had an attack of herpes very similar indeed to the picture which was exhibited here, and the similarity of these cases of four children and the mother in one family were so similar to those which Dr. Herman has described, that the coincidence struck me as a remarkable one. None of them had an eruption similar to measles, but all the other symptoms were closely presented.

Two of the children had in addition a symptom which the Doctor has not mentioned, but which in speaking with Dr. Waterman and others lately I find has been noticed by others—a marked enlargement of the cervical glands immediately behind the angle of the jaw. That appears to be a rather common manifestation of the disease this fall. The glands do not suppurate, but it appears to be simply a cervical adenitis following absorption probably from the tonsils or pharynx.

We are able, I think, to diagnose diphtheria with a fair degree of certainty by means of the microscope. We are able to diagnose measles with fair certainty by means of the temperature curve combined with the eruption. I believe that if a proper technic is followed that we are also able to diagnose grippe by the examination of the blood. It is some years since I have done that, but I remember as far back as 1890 the diagnosis of epidemic influenza in the Vienna General Hospital was based entirely upon the diagnosis of the blood and the examination of the blood cells for the bacillus of influenza. I for one would be very glad to hear from Dr. Herman just what the present technic is.

Dr. Webster: I have recently seen two cases similar to those of which Dr. de Forest has spoken. There was considerable cervical enlargement and only moderate throat symptoms without the presence of the typical membrane, but there was a suspicion of diphtheritic infection. In both cases cultures were made which were negative, but the cases did not respond to treatment which I have usually found reasonably successful for a tonsillitis and they did not give the characteristic course of a tonsillitis; I am inclined to think from what I have heard to-night that they would fall within that same class as the cases of Dr. Herman and Dr. de Forest.



RENAL CALCULUS, PASSED BY THE URETHRA.

Presented by JOHN R. STIVERS, M.D.

(x 2).

Dr. B. F. Briggs: From the beginning I have treated grippe as diphtheria and I call it diphtheritic malaria. The pathology of grippe is universal exudation. We see skin eruptions; they are quite common, the one simulating measles is the most common; the eruption is a little more vivid than in true measles. Of course the tendency of grippe is to mucous exudation, but it is very often serous. I usually am aided in diagnosis of grippe by a peculiar spotted tongue, something resembling the scarlet fever tongue, with redness at the back of the pharynx. Grippe appears to have spasms of showing its violence on different parts of the body without any known cause. When the exudate is from the bowels and we have early diarrhea the patient recovers very rapidly. That is well to be borne in mind in treatment—a strong cathartic and you will have early recovery.

Dr. de Forest: The technic that I used consisted in the keeping of a cover-glass preparation of blood in a mixture of eosin and methyl blue at a temperature of 70 degrees for 36 hours. The maintaining of this uniform temperature that makes the process difficult for those of us who have no regulating apparatus in our own houses, to make the blood examination for this particular bacillus, and I was in hopes some simpler method had recently been devised..

Dr. Herman: The specimen I have was obtained from the sputum of the woman who was infected from the tracheotomy case; she brought up a great quantity of blood in expectoration and in the sputum we found the bacillus and also these degenerated blood cells.

Dermoid Cyst of the Ovary; Specimen.

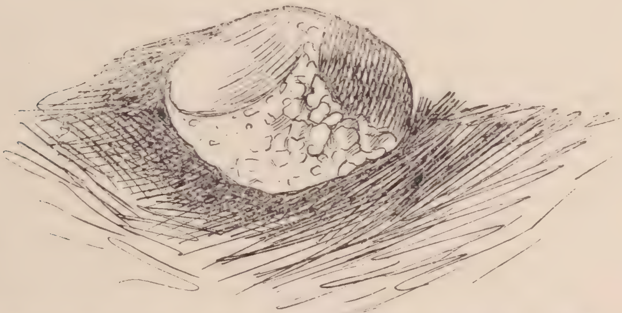
H. Beeckman Delatour, M.D.

Here, Mr. President, is a dry, mounted specimen of a dermoid cyst of the ovary which was removed some weeks ago at St. John's Hospital.

Pathologically there are several matters concerning the construction of a dermoid cyst that are interesting. In the first place, the cause of a dermoid cyst is exceedingly interesting, chiefly because we know so little about it and because of the many theories which are given us; the theory of Cohnheim is the one most generally accepted by the American authorities. In the matter of construction, the dermoid cyst varies in a number of ways. The dermoid cyst of the ovary is usually pedunculated. As a rule in other parts of the body we find it non-pedunculated. But it may occur in the converse of this. The dermoid cyst is sometimes found with a sessile form of tumor and there is sometimes a pedunculated dermoid of some other portion of the body where these are more or less frequent. The cyst walls vary more or less in thickness. It may be simply a thin membrane more or less vascular, or it may be a very thick wall of connective tissue, with connective tissue between two layers of strong fibrous construction; this wall is occasionally invaded during the process of the growth by some of the strange contents found in the cyst. I remember one dermoid cyst which I observed in which there was a rudimentary jaw projecting from one point in the wall of the cyst.

Perhaps the most important pathological consideration about a dermoid cyst is its future. There are a number of pathological conditions that become engrafted upon a cyst that begins as a simple and innocent affair as far as life is concerned. Perhaps the most common of these is the condition of suppuration, and this most frequently occurs in dermoid cysts of the ovary; the suppuration is generally of an active character.

Then the tension sometimes becomes so great that the dermoid cyst may rupture spontaneously and if it is connected with one of the internal organs, such as the ovary, a fatal peritonitis may result. In the comparatively quiescent state the dermoid cyst of the ovary seems to act merely as a foreign body, and on opening the abdomen if the conditions about a dermoid cyst be observed at the time of its removal, we find many adhesions, and these as a rule are much more frequent and much older and stronger than those we find about the ordinary ovarian cyst.



BILIARY CALCULUS, REMOVED FROM LIVER.

Presented by EDGAR A. DAY, M.D.

More dangerous still, when it does occur, is the occurrence of carcinoma in the wall of a dermoid cyst, generally in a very active form. Sarcoma also occurs. I have seen one case of this sort in which there was a large and rapidly growing sarcoma in the wall of the dermoid cyst. The only peculiarity of these growths, as far as I can find, is that there is a marked absence of the fibrous elements of the malignant tumor, and so they are the most dangerous varieties of malignant tumor.

If therefore we make a diagnosis of a dermoid cyst of the ovary, which is by no means easy, the thing for us to tell our patients is that the prognosis is very bad, so far as the ultimate result is concerned; for there are frequently cases under observation that come to a bad and sometimes fatal outcome; there are others fortunately less frequent that are certainly fatal when they do occur. So we are warranted in saying the prognosis of dermoid cyst is bad.

53 Eighth Avenue.

DISCUSSION.

Dr. de Forest: One of these tumors, the teratoma, which was presented to this Society a few years ago, was a very noted case at the time, and the form of growth was closely allied to the dermoid cyst that Dr. Goodrich has presented. The case attracted much attention even in the newspapers. A man, a patient in the Seney Hospital, had removed from his side a tumor which contained large masses of hair, quite a collection of teeth, and a fetal skull. The tumor was a vestige of embryological structure which had remained in the man's side and has gone on to development into an anomalous, heterogeneous mass of tissue which we know as a teratoma or in its simpler form as a dermoid.

I remember the surprise with which one of the domestics at the hospital heard a tumor had been removed from the body of a man and that this tumor, contained the remains of a child. After having expressed her surprise, she said in horror-stricken tones to one of her companions, "And the worst of it was he was a bachelor."

Renal Calculus, Passed through Urethra; Specimen and History (Illustrated).

John R. Stivers, M.D.

The history of this specimen which I show you and which is drawn of the natural size by the artist is a brief one. The patient is a man, eighty years of age, who has had within a few years three distinct attacks of renal colic. A day or two after the last attack this calculus was passed with some difficulty through the urethra. Since that time he has been perfectly free from pain and there has been no return of the colic.

143 Leffert's Place.

Contracted Gall Bladder; Biliary Calculi; Specimens and History.

Russell S. Fowler, M.D.

The man from whom this contracted gall-bladder was removed had had the usual history of biliary disturbance with occasional exacerbations of biliary colic for a number of years. Dr. George R. Fowler operated upon him a few weeks ago to relieve him of the intense pain from which he suffered during these attacks. The patient was relieved of the pain and also of this gall-bladder, together with the number of rather small biliary calculi which the gall-bladder contained.

388 Lafayette Avenue.

Biliary Calculus, Removed from Liver; Specimen and History (Illustrated).

Edgar A. Day, M.D.

Mrs. S., the patient of whom I shall speak, a woman 58 years of age, was attacked about 16 years ago by sharp pain about two inches below the normal location of the gall-bladder. This severe pain persisted for three or four days and she was confined to her bed for about two weeks. Her physician and his consultant diagnosed her trouble as obstruction of the bowels and treated her accordingly. A large swelling appeared at the time in the right side. This latter subsided somewhat but which ultimately persisted as a painless, floating, cylindrical tumor about two and one-half inches in diameter and five inches long situated just below the free border of the costal cartilage on the right side.

On October 18, 1899, the writer was called to see the patient and found her suffering great pain from a swelling located midway between the normal location of the gall-bladder and McBurney's point. An ice bag caused easement of the pain but the continued tenderness and a temperature ranging from 100° to 100.5° led in a few days to a consultation with Dr. Walter C. Wood and a diagnosis of empyema of the gall-bladder, with probable impaction of a biliary calculus in the common duct, was agreed upon as the most probable condition.

A few days later, October 25th, with the assistance of Dr. H. P. de Forest I performed an operation for the relief of the condition. An opening was made into the most prominent portion of the tumor and a moderate quantity of pus and thick serous fluid escaped. Upon introducing the finger into the wound a large and irregular cavity was found, within the substance of the liver itself, and at the bottom of this cavity was found the single large, regularly facetted calculus which I have shown you and which the artist has drawn of its natural size. The limitations of the gall-bladder could not be made out, and no bile was found at the time of the operation though considerable escaped from the wound a day or two later.

It would appear that, as a result of the long-continued inflammatory process, the cephalic surface of the gall-bladder had become adherent to the opposed surface of the liver and that as a result of pressure and infection the calculus had finally escaped into the tissue of the liver itself. In the absence of other calculi it is difficult to account for the formation of four such well polished and large facets.

A sinus persisted for several months, but finally healed. The moderate degree of jaundice disappeared, and the patient made a good recovery.

659 Putnam Avenue.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 7.
WHOLE No. 151
BROOKLYN, N. Y., JULY, 1900.
Single copies 25 cents
$2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

RECURRENT OCULO-MOTOR PARALYSIS.

BY L. A. W. ALLEMAN, M.D.,
Brooklyn, N. Y.

A Case reported to the Brooklyn Neurological Society, February 22, 1900.

F. B., female, October 15th, presented herself at my clinic, in the Polhemus Memorial Dispensary, on December 29, 1899, giving the following history: During the last five years the patient has suffered from severe hemicrania, strictly localized, behind the left eye. The headache is preceded by obstinate constipation, which persists several days, when an attack is ushered in by a feeling of chilliness (the only aura), shortly followed by the pain, accompanied by nausea; the pain and nausea increase, reaching a maximum in three or four hours, when violent emesis begins, which continues till the stomach is emptied. From the beginning of the attack the eye is "set," as the patient expresses it, and the lid begins to droop—the eye gradually closes, and by the end of the third day there is a complete ptosis. This lasts about three days, the eye then slowly opens, the pain at the same time diminishing in severity; by the end of a week the eye has returned to its normal condition. For the first three years after the onset of the affection the seizures recurred with much regularity, once in seven weeks, but during the last two years they have been less regular and the intervals longer. The last occurred 19 days ago. This differed from the previous seizures, in that it was followed by a divergent strabismus, and that the paretic symptoms still persist. The patient states that previously there has been no strabismus, but on questioning other members of the family I am inclined to doubt the statement. The family history is negative, save that the mother is probably neurotic, and has periodic "nervous" headaches. The patient matured about a year ago, and since then has had longer intervals between attacks; her menstrual function seems to be regular and normal, she appears well-nourished, yet there is something peculiar about her appearance which I am unable to describe, which, possibly, is due to the strabismus and proptosis, which suggested to my mind, when I first saw her, the idea of brain tumor.

On examination the eyes showed normal vision ($v={}^{20}/_{20}$) in either eye, with no considerable refractive error—the fundus was normal, and the retinal circulation similar in both eyes—fields normal for form and color, and accommodation unimpaired, There is some proptosis in the left eye, with slightly larger palpebral opening. The excursion of the left eye is limited in all directions, save to the left, and convergence is more impaired than right excursion. A marked divergent squint is present. The pupil is in moderate dilatation, and reacts to light sluggishly; it reacts in convergence, and the consensual reactions are normal. I thought at first that there was a hemianopic pupillary reaction, but found, on further examination, that there were, at all times, areas in the periphery of the retina which failed to respond to stimulation, but the anesthetic area varied momentarily during examination.

I referred the case to the Department of Nervous Diseases, and the patient was very carefully examined by Dr. Onuf. From his report I take the following notes, not covered by the previous history: "The innervation of the face is apparently normal, sensation intact everywhere and in all qualities; no motor disturbances, other than those of eye and lid, noted; all deep reflexes lively, especially the triceps and wrist tendon reflexes, for the flexor side; knee and ankle jerk normal; mammæ rather small and flaccid; lungs normal; heart's action somewhat exaggerated, and second aortic and pulmonary sounds accentuated, especially the latter; pulse disproportionately weak as compared to heart's action; spleen cannot be marked out; liver dullness normal."

The history of this case is unusual in that the paralysis accompanied the attacks, and in the complete recovery from the numerous seizures preceding the last attack.

The case is a fairly typical example of the condition known as recurrent third-nerve paralysis, or paralytic migraine. (Charcot). I prefer the term recurrent paralysis, if we are to include under this head all the cases in which headache and recurrent paralysis are the chief features, for we have cases presenting nearly identical symptoms and for a time indistinguishable, some of which terminate in complete recovery, both from the headache and the paralysis, while others terminate fatally, and show on post-mortem gross organic lesions. All of the cases, too, lack, as a rule, many of the symptoms usually associated with migraine, such as hemianopsia, visual spectra, and scintillating scotomata, while, if we accept the doctrine of Lasègne, that a pain lasting less than six, or more than twenty-four hours, is not a migraine, the duration of the attacks would also exclude these cases.

Recurrent paralyses are more frequently met with in females,* and appear, as a rule, in the childhood of youth. The subjects are frequently well-nourished. Obstinate constipation precedes, the attacks recur after an interval varying from a few days to a rigors and general malaise, with severe hemi-crania, usually on the same side as the subsequent paralysis. These symptoms persist for from two or three days to several months, and are followed by more or less complete paralysis of some or all the branches of the third nerve, occasionally also of some of the other cranial nerves. This paralysis may entirely disappear during the interval, but there is frequently some permanent loss of function; the attacks recur after an interval varying from a few days to a year, the shorter the duration of the attacks the less the interval. Many cases recover entirely from the seizures, sometimes also from the paralysis, while a few cases have terminated in death.† Various explanations have been offered for these symptoms and of necessity much ingenuity has been necessary to make one set of pathological conditions do duty in all the cases. Most writers have inclined to an organic lesion, at the base, as the causative factor, and meningitis, diseases of the nerve trunk, and neoplasms, have all been assigned as causes—while others, particularly among the neurologists, consider the symptoms as purely functional, and a manifestation of migraine.

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* Swanzy, Norris & Olmer System, Vol. IV., p. 607.

† Spicer & Ermerod, Trans. Oph. Soc., V. K. XVI. 227.

If we take any considerable number of these cases, and note the absence of the other symptoms pointing to a serious organic disease, the frequency of recovery, and the identity of the explosive symptoms in all these cases, even those of proved organic nature, we are, I think, forced to believe that we have a functional disease, produced, in some instances, by a general systemic condition, and in others probably by the organic disease, which ultimately proves fatal. In migraine, as I understand it, we have a disturbance of the sympathetic nervous system, producing localized nutritive disturbances in the brain, through the vaso motor system. Knies* gives a similar explanation for the graver manifestations of hysteria, and considers it sufficient explanation for permanent paralysis. Following typhoid fever we have paralyses, notably of the third nerve, which have been explained as a result of menigitis, but Osler† has shown in these cases that meningitis is not usually present; we have, then, I think, sufficient warrant for refusing to believe recurrent paralysis to be always due to an organic lesion.

I have recently had under observation a case, interesting in this connection, a young woman suffering with severe periodic, localized hemicrania developing a paresis of the external-rectus, curiously on the side opposite to the hemicrania; she showed marked inequality in the temporal arteries, which varied during examination, and irregularity in the calibre of the retinal vessels. I believed the case to be one of vascular spasm, due, primarily, to disordered nutrition, and, as an experiment, gave her an inhalation of amyl nitrate during a headache. The pain was temporarily relieved, and on following this indication by the administration of full doses of pot. iod., I succeeded quickly in relieving the headache and improving the paresis, the retinal vessels, at the same time, presenting a normal calibre.

While, then, we may feel that we are safe in making the contention that we have in periodic paralysis a sympathetic disturbance, I feel that we are yet unable to give a satisfactory explanation of the phenomena. Why this peculiar grouping of symptoms? Why is the third nerve so much more frequently attacked than the other cranial nerves? If the cause is solely nutritive, I see no reason for this preference.

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* Knies, The Eye in General Disease.

† De Schweinitz, Oculo-motor Paralysis from Typhoid Fever.

Must we call to our aid a localized edema, also vaso-motor, to which the third, from its exposed position would be more likely to suffer, or shall we explain it as we do the occurrence of the papillitis of cerebral tumor, which, after most elaborate experimental demonstration of its bacteriological nature, and an equally clear refutation of this explanation, has, at the present time, no scientific license to occur. When we are endeavoring to reach definite conclusions in such problems we may almost regret that we know so much, if we cannot know more, for a little denser ignorance would allow us to look back to the simple pathology of our fathers and find a full and satisfactory explanation for such nerve lesions in "A visitation of Providence."

DISCUSSION.

Dr. Onuf, in opening the discussion, said the affection is properly a form of ophthalmic migraine, and all the symptoms point to involvement of the sympathetic nervous system, namely, the tachycardia, constipation, chills and vomiting; in other words, to a general and not a local affection. In recurrent third nerve palsy, edema does not explain these symptoms. What the lesion is, is a question. There is no organic lesion in this case, as shown by its periodicity and lack of tendency to degeneration.

Dr. Haynes, continuing the discussion, reported the following case of a girl, aged twelve years, with a good negative family history, and a personal history of the usual infectious diseases of childhood, with attacks of headaches at times. One week after school opened in the fall, she felt a pain in the top of her head and over the eyes, without nausea, and it was noticed she did not open her right eye with lachrymation and a sore feeling in it. On examination, besides the above-described condition, there was also ascertained to be anesthesia of the right supraorbital region, without any visual defect. The diagnosis of migraine, with ptosis and anesthesia of the supraorbital branch of the fifth nerve, was made, and after six weeks' treatment she was entirely recovered.

The attention of the profession was first called to this complaint through the celebrated paper of Saundby, in the *Lancet* for September 2, 1882, though his were not the first cases noticed and reported. In this country our lately lamented, noted confrère, Dr.

John C. Shaw, was the first to report a case of this kind, and he collected all in reach at the time of the publication of his paper, entitled, "Migraine with Intermittent Ptosis," read before the Medical Society of the State of New York, in 1886, and printed in its transactions for that year. The last and most complete article on the subject is that of Dr. P. C. Knapp's under the title of "Recurrent Motor Ocular Paralysis," and published in the *Boston Medical and Surgical Journal,* vol. cxxxi., 1894, page 308, and includes a complete bibliography. This is eminently a disease of childhood and youth, as nearly all the cases reported have occurred during the first and second decades of life, or the earliest attacks took place during that time. It occurs equally in males and females, and in the same proportion on either side of the head. There is in some cases a family history of a predisposition to attacks of either trifacial neuralgia or sick headaches, and the symptoms of either one or the other accompany the attacks of ptosis, which latter comes on early in the attack of pain, but in only a very few cases is there accompanying anesthesia. The attacks are usually ushered in suddenly, with neuralgic pains or headache, nausea and vomiting, which may be so slight as to be thought absent; soon after, the paralysis of one or all branches of the motor-oculi appears, when all the symptoms except the pain may cease; after a shorter or longer interval it disappears for a time, to be followed after a week's, month's, to a few years' interval, by a recurrence. The attacks may be accompanied by photophobia, swelling of lids, catarrhal or purulent discharge, paralysis of the other eye muscles, and, rarest of all, anesthesia of any or all of the branches of the fifth cranial nerve. This last symptom, in the five cases (including my own) in which it has occurred, has appeared on the same side as the pain and oculo-motor paralysis; in two cases involving the supraorbital branch only, in two cases both that and the infraorbital branch, and in one case all the branches of the fifth nerve on the affected side. One, of course, at first naturally suspects syphilis or tumor, but the previous history of attacks or symptoms accompanying the attacks with lack of history or other symptoms of either of these diseases and their subsequent non-appearance, especially in the optic nerve, will serve to help differentiate these cases.

The prognosis varies. In some cases the patient has recurring attacks of the same character at varying intervals, in others the severity and frequency increase till in some the trouble becomes permanent, and yet in others the reverse has occurred, namely, less frequency and less severity, or again less frequency and more severity. Of course, this will remain the condition while the etiology remains so obscure as it is, and its treatment empirical and unsatisfactory. After discussing the different views, Knapp sums up the pathology of this disease as follows: "The most tenable hypothesis is that recurrent oculo-motor paralysis is due to some vascular changes, inflammation or edema in a focal lesion, involving the root of the third nerve. As the edema or exudation subsides the conducting power of the nerve is wholly or partly restored, and the paralysis disappears. In some cases the lesion may involve several nerves, or the exudation may affect only a part of the lesion, involving different nerves at different times. As the lesion progresses it may finally affect the nerve so far as wholly to destroy its conducting power, leading to permanent and total paralysis. The few (three) reported autopsies confirm this hypothesis."

The latest theory propounded on this subject is that mentioned by Putnam of Boston, in the just issued February number of *The Amer. Jour. Med Sciences,* where, in discussing the pathology of "Family Periodic Paralysis," he likens it to the periodically recurring attacks of paralytic migraine, and thinks their pathology must be much similar. This he goes on to show, by referring to the papers of Meltzer and Oddie, may be due to an inhibitory influence exerted through the nerve centers instead of an irritative one, and most probably caused by some blood state or auto-infection.

Dr. Brush reported the case of a woman presenting these same general symptoms, with paralysis of the muscles supplied by the facial nerve on the same side as the headache. There is no adequate explanation of these cases of why the headache is on one side and only certain of the muscles involved, not all; in other words, it is all theory, not facts.

Dr. Morton had seen many cases of left-sided neuralgia, lacrymation, dilatation of the pupil and vomiting, in other words, migraine or persistent headache, with vomiting, which we all know are due to disturbances of the alimentary tract, stomach, intestines, and liver, and treating these organs, including the liver, relieved them. It is a family disease, its pathology is obscure, one thing being that it was due to a blood poison or toxemia; often recurred; sometimes vision was involved; may be due to loss of sleep, hard study, sedentary habits, tea drinking, attended by constipation, headache and eye trouble.

Dr. Alleman in closing the discussion said that the different theories propounded explained nothing. Knies had, some time ago, proved the inhibitory action to be inadequate. He believed the lesion, whatever it was, to be not organic, but a disturbance of the sympathetic nervous system, due to a toxemia.

REPORTS OF CASES OF APPENDICITIS.

BY ARTHUR H. BOGART, M.D.,
Assistant Surgeon to the Methodist Episcopal and to the Kings County Hospital.

Case I.—Acute suppurative appendicitis, peritonitis. F. W., male, age 19, was first seen, in consultation with Dr. W. C. Weeks, three days after the onset of symptoms, which began with sharp pain in the right side while riding a bicycle; this was soon followed by tenderness all over the abdomen, fever and constipation. Upon examination the abdomen was found rigid and tender in every locality, perhaps a trifle more marked in the right side; no tumor could be felt by abdominal palpation, but by rectum a distinct mass could be felt in the median line, which was extremely tender upon pressure. Abdominal distention was not marked, and the general condition of the patient was good. Temperature, 100°.

Operation.—On account of the location of the above-mentioned mass, and at the suggestion of Dr. H. B. Delatour, who saw the case in consultation, a median incision was made about three inches in length; upon opening the abdomen it was found to be the seat of a diffuse plastic peritonitis, the intestines being in many places covered with plastic material and everywhere intensely congested. Between the rectum and the bladder was found a large quantity of pus, which was removed, together with the ruptured appendix. The usual drains were then introduced, and the abdominal wound partly closed. Patient made a prompt recovery from the operation and continued to do well, being discharged cured four weeks later.

Case II.—H. S., male, four and one-half years, referred by Dr. Silberman; was admitted to the Methodist Episcopal Hospital with the following history: He had always enjoyed good health up to ten days before admission, when he began to suffer from pain in the abdomen, most marked in the epigastric region; this was accompanied by constipation, and some nausea, but no vomiting. There was some fever. Daily catharsis resulted in the fever becoming normal on the sixth day, and a very decided diminution in the pain. On the morning of the seventh day the patient was sitting up and feeling comparatively comfortable, but again had some fever; in the afternoon had some pain, and the fever had increased; at night the abdomen became distended, and the pain and tenderness became localized at McBurney's point, a few hours later they became general. About this time the patient began vomiting and developed a diarrhea, which persisted, the vomiting lasting only about twelve hours.

Examination on admission showed a flushed face, general abdominal tenderness, most marked on the right side, some abdominal distention, with rigidity of the right rectus muscle; no tumor could be felt. Temperature, 101-8; pulse, 125, respiration, 35.

Operation.—Usual incision, peritoneal cavity opened and a large quantity of pus evacuated from the site of the diseased appendix, which was found gangrenous and removed, a large quantity of pus was also sponged out of the pelvis. Three wicking drains were then inserted and the wound partly closed.

Record after operation: Temperature, 108-8°; pulse, 132; respiration, 30. Patient did fairly well, but still complained of some pain in the abdomen. At the first dressing, four days after operation, the discharge was profuse, and thick and creamy in character. For the first five days after operation the temperature never went above 101°, after that, however, it assumed a septic type, varying from 102.6° to 100° F. Owing to this condition, twelve days after operation, antistreptococcic serum, 5 c.c., was ordered, q.6.h. For one week the serum seemed to have no beneficial effect; at the end of that time the temperature dropped to 100° F., and never rose above that point while the serum was being used, and immediately rising to 101.8° the day after it was discontinued. I am inclined to think, however, that the reduction in fever and general improvement in the patient's condition during that period were due as much to more drainage as to the effect of the serum.

Three weeks after operation, during which time the temperature had never been normal, and the patient had complained more or less of abdominal pain, there was found on examination an undue sense of resistance, having an elastic feel extending from the level of the umbilicus, on the left side downward, and covering an area about the size of one's palm, with marked dulness over the same area. The wound continued to discharge moderately, and the patient's general condition slowly improved. The temperature, however, never became normal until a second operation was done, as follows, *viz.:* A finger was introduced into the drain opening, and passed downward and to the left, apparently breaking some adhesions in its course, but failed to reach the site of a distinct mass, which, under the anesthetic, could now be distinctly felt in the left flank.

An incision was then made parallel with Poupart's ligament and extending above the anterior spine, and the peritoneum stripped backward, with the idea of opening the abscess extraperitoneally. During this manipulation, however, the tumor disappeared, apparently, by drainage through the original opening. This wound was closed and healed per primam; drainage was provided for in the original opening, and patient made a good recovery from that date, being discharged about three weeks later, with a small fistula, which was afterwards successfully closed.

Case III.—V. M., age 52, acute suppurative appendicitis, diabetes, peritonitis, and chronic diffuse nephritis.

Seen in consultation with Dr. W. C. Weeks, four days after onset of symptoms, which began with severe cramp-like pains in the right iliac fossa, accompanied by nausea; bowels did not move for two days. Two days after beginning of attack, while walking across the floor, pain suddenly became easier, and since that time he had kept his bed and been much more comfortable. On admission to the hospita lthe temperature was 100.4°; pulse, 124; respiration, 30, and there was still some nausea. Abdomen distended and tender all over, but more particularly on the right side, where the muscles are quite rigid. No tumor to be felt.

Urine analysis, 1040; sugar, albumin, and numerous hyaline and granular casts.

Operation.—A four-inch oblique incision over the site of the appendix opened the peritoneal cavity and liberated a quantity of seropurulent material; appendix found in an abscess cavity posterior to the cecum and removed; pelvis was found filled with pus, which was sponged out; suitable drains introduced, and the wound partly closed.

Patient did not take the anesthetic well, but made a good recovery. Antistreptococcic serum, 10 c.c., q.6h., was ordered. The abdominal condition in this case remained satisfactory, the distention subsided, bowels moved, and the tenderness cleared up to a certain extent; nausea and vomiting persisted, however, and complete urinary suppression followed, from which the patient died three days later.

Case IV.—C. I., acute suppurative appendicitis. One week previous to admission, patient began to complain of cramp-like pains in the right side of the abdomen. At this time he was seen by Dr. Silberman, who ordered a laxative, which resulted in a free movement of the bowels and relief from the severe pain. From that time up to two days before admission the symptoms had been those of gradual improvement. Twenty hours before admission he was again seen by the doctor, and found to be suffering from severe pain in the right side, accompanied with marked tenderness in the same locality, where a tumor could be felt. Under application of ice the pain and tenderness were much relieved; temperature, 100.6° F.; pulse, 116.

On admission, examination showed abdominal distention, some rigidity of the right rectus, with tenderness in the appendicular region, and the tumor mass above described.

Operation.—A three-inch oblique incision opened the abdominal cavity, the appendix, which was found in the center of an abscess cavity, just at the margin of the pelvic brim, was removed, pus sponged away, drains inserted, and the wound partially closed. This case also made an uninterrupted recovery.

Case V.—Acute suppurative appendicitis, P. F., age 9 years, referred by Dr. F. M. Sharp. Had been ill three days before admission, suffering from the usual cramp-like pains in the abdomen, which finally became localized in the right side; bowel movements frequent and natural, frequent vomiting.

On admission, examination revealed the following condition: Facial expression anxious, tongue coated, abdomen not much distended, general tenderness slight, right rectus muscle rigid, tenderness marked in the appendicular region, where an indefinite mass could be made out. Temperature, 102°; pulse, 120; respiration, 40.

Operation.—The usual incision opened the peritoneum, when a portion of the much-inflamed omentum presented itself, and was found to envelop a gangrenous appendix, which was removed, together with the diseased portion of omentum; wicking drains were then inserted and the wound partially closed. Recovery uninterrupted.

Case VI.—E. G., 9 years; acute suppurative appendicitis, peritonitis. Previous history, negative.

Present trouble began forty-eight hours before admission, when the patient began to suffer from general cramping pains in the abdomen, not localized at any particular point, but more severe in the right side than elsewhere; these pains had continued, gradually becoming more severe. Bowels had not moved since onset of the symptoms, although cathartics had been administered. No vomiting.

On admission, patient was still suffering considerable abdominal pain, facial expression was anxious, tongue thickly coated, abdomen distended and tender all over, and also very rigid, particularly on the right side. An ill-defined tumor could be felt in the appendicular region. Temperature, 100°; pulse, 140; respirations, 24.

Operation.—An incision over the appendicular region opened the peritoneal cavity and permitted the escape of a considerable quantity of sero-pus; but few adhesions were found. The appendix, which was found to be ruptured about its middle, was removed, sero-pus was sponged away, particularly from the hepatic and pelvic regions; the usual drains were then introduced, and the wound partly closed.

This patient did well from the start. The drains were changed on the fourth day, and the bowels moved freely on the same date. The after-history of the case was one of uninterrupted recovery, and she was discharged cured on the twenty-third day, with a linear scar.

If we include under the head of general septic peritonitis cases in which there are but few, if any, adhesions, and in which, upon opening the abdomen, there escapes a quantity of seropurulent material, with which the intestines have been bathed, as shown by their appearance when presenting in the wound, then four of the above cases were of that character; and yet three recovered, and the fourth would have undoubtedly done so had not urinary suppression supervened.

They were just such cases as were considered almost hopeless some four or five years ago. This experience is similar to that of others. The mortality from septic peritonitis seems to have been reduced within recent years, nor does it seem to be the result of any particular method of treatment. One operator elevates the foot of the bed in order that the lymphatics in the region of the diaphragm may the more readily absorb the poison. A second finds the pelvic cavity more capable of disposing of the septic products, and so elevates the head of the bed. A third removes the intestines from the peritoneal cavity and scrubs them off, while a fourth simply opens the abdomen and removes the cause of infection in selected cases, and closes the abdominal wound.

While these and other methods of treatment are used by different operators, yet all obtain better results than they did in former years. In my cases the source of infection was removed, such septic material as could be was sponged away, and drainage provided for.

The use of antistreptococcic serum in these cases, and others, has seemed to be of little or no benefit in our hands.

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MEDICAL SOCIETY OF THE COUNTY OF KINGS.

SECTION IN LARYNGOLOGY, RHINOLOGY AND OTOLOGY.

First Stated Meeting, Thursday, March 15, 1900.

"Adenoids."

Remarks on the Pathology and Etiology 511
Jonathan Wright, M.D.

Symptomatology and Effects on the General System 515
H. Arrowsmith, M.D.

Effects of Adenoids on the Ear 520
W. C. Braislin, M.D.

Treatment of Lymphoid Growths in the Vault of the Pharynx 523
Thomas R. French, M.D.

Remarks on the Pathology and Etiology.

Jonathan Wright, M.D.

In attempting to present for your consideration that part of the general subject of "Adenoids," which deals with their pathology and etiology, I find myself embarrassed by the fact that in the time allotted to me only the general outlines of the whole are possible, and to confine myself to the mention of these only would be tiresome and superfluous before this audience, although it doubtless realizes that it is met to consider a subject which is probably more timeworn and threadbare from much handling than any other subject in all the domain of medicine. The whole revelation of "adenoids" sprang from the brain of Wilhelm Meyer thirty years ago, full panoplied, as Athene from the head of Zeus, and very little of value has been added since, notwithstanding the enormous volume of literature which has appeared on the subject. This has been mostly tiresome reiteration, if not fruitless discussion.

Nevertheless it is probably necessary, from time to time, to review certain aspects of the subject in order to keep a pathological condition, which is really a matter of some importance to the health of mankind, before the minds of us all.

Without dwelling upon the histological structure of lymphoid growths or upon their gross appearances as they occur in the nasopharynx, or upon many other well-known phenomena, it may be well to mention the changes which the retrogression of the lymphoid material leaves behind it, in and on the mucous membrane of the nasopharynx. Now I use the words *in* and *on* advisedly. It is very surprising that the generality of writers on the subject seem to assume, tacitly it is true, that ablation of the lymphoid excrescences on the surface will save the underlying stroma from the fibrous changes which remain after the reabsorption of an abnormal deposit of round cells in the stroma. It must be distinctly remembered that all, even the most thorough operation, can do is to shave the surface clean, remove the excrescences. It does not and can not remove the infiltration of the mucosa without removing the mucosa itself down to the periosteum. In spots even the most careful operator, if he tries to be thorough, does this. When operators, therefore, talk of removing all of the lymphoid material, they speak in a Pickwickian sense, possible without subsequent contradiction only because the nasopharynx is not open to the inspection of the general medical public. Now, sometimes the retrogression of unmolested "adenoids" leaves the surface smooth; perhaps in more than one-half the cases this is the result after adolescence. Perhaps operation helps nature materially in doing this, but it must be kept in mind that violence of this kind leaves behind it its own traces of scar tissue. What operation does do, of course, is to remove the dangers, the symptoms and the annoyances the patient is liable to until Nature still further relieves him. Nevertheless, whether operated on or not, the retrogression of the lymphoid material while frequently leaving the surface smooth, usually leaves behind in the stroma a superabundance of fibrous tissue and possibly some epithelial metaplasia of the surface. This is apt to interfere with the proper functions of the vascular and glandular organs of the pharynx, especially under the unfavorable climatic and hygienic influences to which many of us are subjected in adult life, and thus we have the genesis of another old laryngeal friend, more tiresome even than "adenoids," because he can not so easily be given orders to depart. I refer to that congeries of symptoms brought to the mind of the physician by the words, *post-nasal catarrh.*

Now, there is another form of cicatricial sequela of "adenoids," found in the naso-pharynx, producing the same symptoms of post-nasal catarrh, but more amenable to operative treatment and permitting therefore of a more favorable prognosis, in any given case. I refer to that form known as Tornwaldt's disease, resulting, as we know, from the inflammatory agglutination of the surfaces of the lymphoid folds of the pharyngeal tonsil, one to the other, leaving beneath sinuses and cavities which, when they become closed cavities, are known as cysts and have been called bursæ, under the mistaken idea that they are, at least in their origin, physiological structures.

Such cysts are apparently, in spite of Tornwaldt's declaration, very uncommon. I have seen three or four and reported one. Dr. Lamphear has reported one of the cases I saw, and that, so far as I know, are all that have been reported in American literature. I merely wish to add that I have also drawn attention to another form of post-nasal cyst which occasionally results from the dilatation of the lymph spaces. The tissue removed in cases of Tornwaldt's disease is usually lymphoid in character, containing, however, a larger, yet varying, amount of fibrous tissue.

Turning now to a similar incomplete review of the question of the etiology of "adenoids" I will merely mention the universal predisposing cause, youth, and the less prominent factors of rheumatism and gout in the family history. Children who are sickly, the so-called scrofulous, those to whom Bosworth has aptly applied the term "lymphatism," all belonging to the one class of pale, ailing children, are those who more frequently have adenoids. While adenoids produce this condition not infrequently, I am under the impression that too much emphasis has been laid upon them as the cause rather than as the result of the general enfeeblement. The adenoids and the general enfeeblement are much more frequently the interchangeable phenomena of cause and effect in children, than standing in simple apposition one to the other. Nevertheless a very large proportion of our cases are to all intents and purposes rosy, healthy, robust children who come to us for snoring or thick talking or frequent colds in the head. In this era of medicine, when every city block boasts two or three physicians, eager to rake out a child's nasopharynx, few children get along so far as to have their general nutrition interfered with. Many a pharyngeal vault is scratched because it contains a perfectly normal amount of lymphoid tissue, and the child is really suffering from the vaso-motor results of too much candy on the stomach, or of too much clothing on the back, or of too much coddling in steam-heated houses. The latter may be justly termed "hot-beds for early adenoids," furnishing, as they do, with their much prized equable temperature, as great a departure from healthy atmospheric variation and ventilation, as it is possible for mortal man to obtain outside of his grave. I need only remind you that adenoids as a hereditary disease is a phenomenon we are constantly meeting with in families, accompanied by a similar hereditary deafness. This brings me to a part of the etiology which perhaps is more open to discussion than any other part of this much-discussed subject, and that is the relation of the shape of the upper jaw to the presence of the lymphoid tissue in the pharyngeal vault. A number of years ago it was almost universally acknowledged that the shape of the jaw presenting a high buccal arch was usually, if not always, the result of postnasal obstruction. This I have always believed to be erroneous. No one has ever been able to explain satisfactorily the rationale of it; certainly not, as some said, by the rarefaction of the pharyngeal air. That, of course, takes place on inspiration, but it takes place below the adenoid and should produce scoliosis of the vertebra or collapse of the oropharynx and trachea.

The open mouth, the lower jaw dragging on the sheath muscles, has been said to approximate the alveolar arches by pulling them down and so inward, as would elastic bands. Neither clinical observation nor anatomical facts bear out any such theory, plausible though it seems at first glance. I may here be allowed to close my remarks by quoting from a review which I have prepared for another occasion and which will appear more in full in the *New York Medical Journal.*

"Some years ago E. Fraenkel (Inaug Dissert., Basel, 1896) by careful measurements came to the conclusion that this was not the case and that this configuration of the jaw occurs no more frequently in those who have than in those who have not had postnasal hypertrophy. The paper of Grossheintz (*Archiv für Laryngologie*, Bd. 8, Heft 3) fully supports this view. Indeed, Lange has stated, and it has been my experience, that cases of a very high, narrow palatal arch are not infrequently seen without a trace of "adenoids." According to Grossheintz, the existence of this condition depends upon the type of the skull; whether, in other words, it is dolicho-cephalic or brachio-cephalic. The deductions which he makes from his exhaustive and somewhat exhausting observations are as follows:

"1. With a high, narrow alveolar arch (hypsistaphylia) is usually associated a general narrowing of the upper face (leptoprosopia).

"2. Narrow nasal passages (leptorrhinia) and narrow orbits belong to the skull formation having high arched palates.

"3. Hypsistaphylia depends, as a rule, upon the congenital racial characteristics of the skull, and not upon the later extra-uterine influences of nasal stenosis.

"While it seems very evident to me that 'adenoids' as the *cause* of narrow jaws have been a subject in which very erroneous views have prevailed, I am not convinced that the narrow jaw, on the other hand, does not have some etiological influence upon the occurrence of lymphoid hypertrophy in the vault of the pharynx. We may presume, at least, that 'adenoids' occurring in such subjects are very much more apt to produce symptoms, especially of obstruction, and thus more frequently come under the observation of the physician than do those of the brachio-cephalic type; but even this assumption should not be too absolutely entertained in the face of the extensive measurements and careful observations of Fraenkel and Grossheintz."

Symptomatology and Effects on the General System.

H. Arrowsmith, M.D.

The diagnosis of adenoid vegetations presents few difficulties to the even moderately close observer, for in the majority of cases it is possible to make more than a presumptively correct diagnosis from the general appearance of the patient alone. Given a child of vacuous, stupid facial expression, dull and heavy-eyed, with thin narrow nostrils, the bridge of the nose broad, the mouth always half open, with a dull muffled nasal voice, the subject of disturbed sleep and snoring, with perhaps an upper lip excoriated by the irritation of a more or less constantly flowing nasal discharge, and ninety-nine times out of a hundred we will be correct in assuming that the patient is a victim of nasopharyngeal lymphoid hypertrophy.

But, of course, our examination should always be systematic and thorough. It is often possible by anterior rhinoscopy, aided perhaps by the use of cocaine or suprarenal extract, to inspect the nasopharynx with sufficient exactitude to detect these lymphoid growths, if they are present. This is, however, not invariably the case, as the pharynx may be concealed from view by hypertrophies and deformities in the nasal chambers; and for this very reason anterior rhinoscopy should be a matter of routine, for it is somewhat embarrassing after assuring the patient's friends that an adenectomy will certainly reëstablish nasal respiration, to find that we are wrong and that in order to obtain patency of the nostrils we are forced to reduce hypertrophies or remove an enchondrosis or straighten a septum.

Not infrequently by direct inspection of the oropharynx we are able to determine the presence of adenoids; a viscid discharge is likely to be found on the posterior wall and at times the growths are sufficiently extensive to be seen below the border of the velum. In the majority of instances posterior rhinoscopy is perfectly practicable with a moderate degree of dexterity and an abundant supply of patience, and this procedure should be resorted to when possible, as naturally direct ocular observation will give us definite information as to the size and situation of the growth. In certain cases, however, posterior rhinoscopy cannot be accomplished and here we are forced to acquaint ourselves with what is present by digital palpation, and often this is really the most satisfactory method, for in an instant we are able to distinguish the extent, consistency and attachment of the growth with greater exactness even than by the sense of sight. The necessary manipulations can be made so quickly as to give the patient really less discomfort than repeated abortive attempts at posterior rhinoscopy. Occasionally in very young children, or in those whose pharynxes are unusually small, it may be expedient to investigate by means of a cotton-wrapped probe, though this is by no means as satisfactory as posterior rhinoscopy or digital exploration.

As to the effects of adenoids aside from their influence on the auditory apparatus, it may be convenient to consider separately their influence on the upper respiratory tract and their influence on the general health.

During childhood, at all events, by far the majority of the diseases which we encounter in the upper respiratory tract have their origin in the so-called lymphoid ring and the principal rôle in the causation of trouble in this region is played by the pharyngeal tonsil. Throughout life indeed its influence is operative, for in 2000 nose and throat cases which I tabulated some time ago, hypertrophy of the pharyngeal tonsil of an appreciable degree occurred in 700, or 35.05 per cent. This is a far larger percentage than I have seen recorded elsewhere. These cases were consecutive, irrespective of age or sex, and the figures do not include the chronic nasopharyngeal catarrhs of which many were plainly the result of previous lymphoid hypertrophy.

Of all the disturbances due to the presence of adenoid vegetations, obstruction to nasal respiration is the most prominent and the one which most often impels the patient to seek relief. In the 700 cases referred to, it was the chief symptom 586 times. It varies in degree from obstruction to total occlusion, depending on the size and situation of the growth and the condition of the passages as to other anatomical abnormalities. The greatest amount of discomfort is usually experienced at night owing to the accumulation of secretions in the choanæ and the consequent irritation and swelling of the turbinals. A certain degree of erectility is said to be a property of this lymphoid tissue and by this means the obstruction is still further increased. Mouth-breathing, with all its seriously deleterious effects, is naturally a constant attendant on nasal obstruction.

A considerable proportion of deformities of the nasal septum is undoubtedly dependent originally on the presence of nasopharyngeal adenoids. These deformities are probably largely due to abnormal conditions of atmospheric pressure within the nasal chambers, during the period of development.

Epistaxis is of frequent occurrence and may at times constitute a condition of serious importance in an ill-nourished anemic child. Eczematous eruptions about the nostrils and lips from the irritation of acrid nasal discharges are commonly encountered.

Pervisions of smelll and taste are usual, and not seldom atrophic rhinitis as a result of adenoids may be remarked; but true ozena is said never to occur.

Hypertrophy of the faucial tonsils often coexists with adenoids. To such an extent is this true that the latter seem to stand in causal relation to the former; thus, in the 2000 cases referred to, I found hypertrophy of the faucial tonsils alone in 101, and in conjunction with adenoids in 333 instances.

Laryngismus stridulus or false croup often results from adenoids; it occurs from the drying of the larynx from mouth breathing, or from the irritation of secretion dropping from above, or from a reflex swelling of the lymphoid tissue about the top of the larynx. Night terrors are due to the same condition. Bronchial asthma and catarrhal conditions of the bronchial tubes, paresis of the vocal bands, laryngeal papillomata, nervous convulsive cough and grinding the teeth are also more or less frequent effects of adenoid vegetations.

Abnormalities of speech are constant accompaniments of adenoids. The ordinary enunciation of an adenoid subject is familiar to every one. It differs from the speech of anterior nasal obstruction in that it is devoid of all elements of resonance and is absolutely dead—rhinolalia clausa.

Among patients who stammer, Mygind gives the proportion of those in whom adenoids are present as 39 per cent. These growths seem to have some effect in delaying the acquirement of speech in a certain number of backward children, but this is due probably more to the tardy development of the mental powers than to any direct local effect of the adenoids themselves. Their relation to mutism belongs more properly to another point of view, so I will leave that for some one else to consider.

Certain local trophic disturbances are encountered in connection with adenoids. The nose is apt to be small and narrow, and from non-use paralysis of the alæ is likely to occur; the nasolabial fold is obliterated, the upper lip short, the incisor teeth prominent and irregular from narrowing of the jaw, the hard palate high and arched. The teeth are prone to decay early from the continuous mouth-breathing, to which is also due the accumulation of tartar on the lower teeth.

Tornwaldt's disease, which is one of the most common causes of obstinate post-nasal catarrh, is a direct result of the retrogression of neglected adenoids. Cervical adenitis is often seen. From this complex of disturbances it is easy to construct the picture of what Moritz Schmidt has called "spurious scrofula."

As to the general effects, it can be said with truth that we encounter few local lesions, in themselves of non-malignant character, which are capable of producing such widespread and, at times, serious systemic disturbances as do adenoid vegetations. The restless and unrefreshing sleep to which adenoid subjects are habituated must in itself alone seriously interfere with the general health and nutrition. Hence we find these patients irritable, uncomfortable and ill-nourished, or else largely apathetic to their surroundings. They are likely to suffer considerably from headache, which is somewhat characteristic; it is mainly frontal and is rather a feeling of pressure than an acute pain.

In 1887, Guye applied the term "aprosexia" to the mental condition which is common to many adenoid subjects. Mental concentration seems to be impossible to them, or the effort appears to exhaust them in a very short time. This is attributed to suboxygenation of the blood supplied to the brain, or to some hindrance to the cerebral hemic or lymphatic circulation. Aprosexia obtains, according to various authors, in 35 to 70 per cent. of adenoid patients. Among congenital idiots adenoids are of very frequent occurrence. Whatever the relationship between these conditions may actually be, it is a fact that removal of these growths will often transform an apparently hopelessly stupid child into a receptive and intelligent being in a way that is little short of miraculous.

Choreiform and epileptoid attacks are sometimes due to the presence of adenoids. I remember particularly one patient, an epileptic, who fell in a typical seizure on digital examination of the nasopharynx, which was filled with a lymphoid growth.

Deformities of the thorax are noted quite often; it is likely to be emphysematous above and collapsed below, or sometimes generally flattened. Perhaps in this way a patient with adenoids may indirectly become disposed to pulmonary tuberculosis.

Adenoids have occasionally been the cause of hernia by reason of the frequent and forcible attempts at blowing the nose. Prolapse of the rectum is said to have been relieved by adenectomy in a few instances. Disturbances of digestion and assimilation are constant in some degree. It is impossible to thoroughly masticate the food and carry on breathing through the mouth at the same time, so that the aliment is swallowed whole, and severe digestive trouble results in this way, as well as from the constant ingestion of large quantities of mucus. This is especially the case with nursing infants, who often suffer from pronounced inanition on account of nasal obstruction, which makes them incapable of nursing properly.

Some part of the elaboration of the blood is attributed to these lymphoid structures, so that pathological changes in them must necessarily affect the organism as a whole. We know that these patients suffer frequently from anemia and leukemia.

John A. Thompson, in a recent number of the *Annals of Otology*, etc., contributes an interesting paper on "Dilatation and Actual Disease of the Heart Produced by Nasal Obstruction."

Habitual nocturnal enuresis is apparently often dependent on adenoids and many cures have been reported by removing them.

The question of the relation between lymphoid overgrowths and general tubercular disease is too broad and unsettled for consideration here. From my own observation I am decidedly inclined to view askance the deductions of many writers. In a good many hundred adenoids I have yet to see the first which gives any clinical evidence of tubercular infection, and Dr. Wright will tell us that in this connection microscopical findings are often misleading.

We have all seen instances in acute disease, in the infections and especially in scarlet fever and diphtheria, where these lymphoid hypertrophies have caused serious and sometimes fatal complications; it seems to me that the assumption that they are important safeguards from infection, by reason of the active phagocytosis and leukocytosis which it is claimed take place in them, is not proven and is scarcely reasonable.

We are surely justified in the proposition that in view of their actual and potential capacity for local and general mischief, all adenoid vegetations of appreciable size should be systematically and, as far as possible, radically removed.

32 Schermerhorn Street.

Effects of Adenoids on the Ear.

William C. Braislin, M.D.

When the painter attempts to portray the idiot, the imbecile, or the dullard, he paints him with the open mouth, the drooping jaw, the contracted nostrils and the dull, inanimate expression of the typical mouth-breather—the expression at once typical of defective hearing and of adenoids.

Dulled intellect and defective hearing so commonly go hand in hand that we may assert without fear of contradiction that the one is often dependent upon the other.

It is not difficult to realize what great gaps defective hearing occasions in the mind of the child affected. In those of normal hearing unconscious absorption of the knowledge of everyday affairs is constantly going on. At home, in school and in the street the auditory apparatus records upon the mind impressions which combine to produce brightness and intelligence. Much of this is lost when the hearing is defective, and a child is unthinkingly termed "stupid" and is frequently considered, even by the parents, inattentive and dull.

The mind to which impressions struggle dimly by way of the auditory apparatus is oppressed and confused.

Proportional Number in Which the Ears Suffer from the Presence of Adenoids.—It is somewhat difficult to determine the exact proportion of the cases in which adenoids involve the ears. Some months ago an analysis of private cases seen during a given time, showed one hundred and twenty-nine cases of adenoids, one hundred and ten of which had at the time of first examination some ear lesion. This gives a proportion of ninety per cent. of cases of adenoids in which the ear was also involved. Sixty cases seen since then give an even larger proportion in which the double condition existed. Adenoids so directly favor middle ear disease that it is exceptional for the ear to escape occasional attacks of inflammation.

How Adenoids Affect the Ears.—The result of an analysis of my cases in which adenoids and ear-diseases coexisted, were published in the *Philadelphia Medical Journal* last year.*

The following list compiled from that article, indicates, in round numbers, the different ear diseases, in their comparative frequency, in each one hundred cases.

Chronic catarrhal otitis media (non-suppurative form), 45 per cent.; chronic suppurative otitis media, 22 per cent.; recurrent suppurative otitis media, 8 per cent.; otitis media sclerosa (results of suppuration), 4 per cent.; subacute catarrhal otitis media, 3 per cent.; acute suppurative otitis media, 10 per cent.; deaf-mutism, 2 per cent.; Eustachian catarrh, 6 per cent.

Classed among the cases of chronic suppuration I find the following varieties or further complications: Necrosis of the ossicles, necrosis of the tympanic walls, necrosis of the wall of the external auditory canal, cholesteatoma, aural polypi, and facial paralysis. Mastoid inflammation was seen in seven of the one hundred and ten cases referred to, five of which were acute and two chronic.

Purulent Ear Discharge with Adenoids.—Almost every case of adenoids seems at some time to be complicated by a middle-ear discharge. In a classification of one hundred and ten cases of conjoined adenoids and middle ear discharge, I found the ear or ears in about one-half the total number of cases the seat of a suppurative ear disease, nearly one-half (24) of the suppurative cases in turn being *chronic* suppurative ear conditions. The exact figures are, viz.:

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* Ear Diseases Co-existent with Adenoids, February 25, 1899.

Chronic suppuration in 24 cases; recurrent suppuration in 11 cases, sclerosis, a sequel to suppuration, in 4 cases; acute suppuration in 11 cases. Total, 50 cases.

Effects of Adenoids on the Ear in Later Life.—Many cases of ear disease in adults give a history of having suffered during childhood from ear discharges, ear ache and various symptoms of nasal obstruction, most of which we can refer to adenoids during these early years. Many of these cases get over their ear trouble temporarily, as, in the course of the child's growth, the pharyngeal cavity, along with the rest of the body, becomes larger; but the effect of early inflammation produces a lifelong tendency to ear trouble which only waits some exciting cause to develop into an aggressive ear disease.

Chronicity.—An ear trouble once occurring, when adenoids already exist, tends to a state of chronicity by the persistency of the adenoids. Pressing to some extent on the mouths of the tubes they not only obstruct the free entrance of air and tend to venous congestion of the auditory apparatus, but also frequently furnish in their folds the germ the entrance of which into the tube is the forerunner of middle ear suppuration. In one hundred and ten cases of ear disease complicated with adenoids, I find I have classified eighty-nine as chronic and sixteen as acute.

Inherited Ear Disease Due in Large Measure to Adenoids.—The inheritance of ear diseases is a topic which impresses itself upon every practitioner.

I have frequently found children with adenoids, and in the same family a parent suffering from what seemed to me the undoubted results of adenoids. I believe that a great part of the apparently inherited ear diseases is in the child the direct, and in the parent the remote result of adenoids.

Summary.—I. Ear diseases almost invariably accompany adenoid growths.

II. The first symptom of the presence of adenoids is frequently pain in, a discharge from, the ear, or impairment of hearing.

III. The tendency of the ear diseases, complicating adenoids to become chronic, indicates a continuing etiological factor in their production. The subsequent improvement in the ear symptoms often taking place between the age of puberty and adult life follows the increase in size of the pharyngeal cavity and the partial or complete atrophy of the pharyngeal lymphoid tissue. The tendency to suffer from ear diseases still remains.

IV. A symptom of impaired hearing due to adenoids is frequently a deficiency in mental development. Mental deficiency is often directly traceable to adenoids.

V. Mastoiditis appears among the complications of middle ear suppuration with considerable frequency, these in turn being traceable to adenoids. It is probable that cerebral abscess and other complications of mastoiditis may have a similar starting point.

Treatment of Lymphoid Growths in the Vault of the Pharynx.

Thomas R. French, M.D.

As the pathology of the disease under discussion has been placed in able hands and has already been considered, a reference to it is not exactly within the province of the division of the subject to which I have been assigned, but to make my position clearer I beg to be permitted to say that the term adenoid now commonly used to designate this disease is unfortunate and least expresses the true nature of the affection. I find it exceedingly difficult to employ this term and, in this short paper, will, therefore, make use of the term lymphoid with the hope that it will be equally comprehensible and with the certainty that it is nearest the truth.

Hundreds of papers appear on this subject every year and in a sense it has become trite, but when we consider that even now the diagnosis of the disease is infrequently made by general practitioners, and that there are capable men who have occasion to examine and treat large numbers of children who still believe that the symptoms produced by lymphoid growths are the result of struma and rickets, we must of necessity reach the conclusion that the field for teaching is still very large. We have threshed all the straw, no doubt, but we have not yet threshed all the wheat from the straw, and it seems to me that there is no department of the subject about which more has yet to be learned and taught than that which has been assigned to me for consideration this evening.

The application or administration of medicines for the eradication of this disease is entirely without value. Absolute removal with cutting instruments is the only method of treatment by which the symptoms can be permanently relieved, but before this body of men it cannot be desired that I should describe the various methods employed for this purpose. I wish, therefore, to direct your attention to several matters which seem to me to be of the greatest interest and importance in dealing with these overgrowths of lymphoid tissue.

In order that I may be as concise as possible and finish my remarks as close to the time limit as possible, I will consider the subject under four heads: (1) Antisepsis. (2) Anesthesia. (3) Hemorrhage. (4) The degree to which these growths should be removed.

Antisepsis.—The nasopharynx is often spoken of as the most unclean portion of the body. There is, no doubt, good ground for that belief, but the fact that wounded surfaces in that region heal quickly and well proves that even if the microscope condemns the character of the secretion, it is evident that it is not commonly capable of producing septic infection. It does not, therefore, seem necessary to prepare the field of operation by washing out the nasopharynx, which would unquestionably be a hazardous procedure, but it is our duty to make such preparations as will render the conveyance of infectious germs to the field of operation an impossibility.

The instruments should, of course, be boiled and afterwards be placed in either a weak solution of carbolic acid or boiled water alone. The mouth and fauces of the patient should be washed out with a saline and antiseptic solution and the face be well washed. The preparation of the patient is made complete when his hair is wrapped in a towel and a sterilized apron or long towel is fastened around his neck. The hands of the operator and assistants are prepared in the usual way and dipped into a weak solution of bichloride of mercury, but when sea-sponges are used—and I find them to be the best for quickly catching the blood from the posterior pharyngeal wall—they should be rinsed in boiled water, never in bichloride, or other powerful antiseptic, solution, for enough of the solution might be expressed from the sponges into the throat and esophagus to produce poisonous symptoms. If preparation is thus carefully made and sterilized vessels and sterilized fluid food used for the first few days after the operation, clean wound surfaces and rapid healing will almost certainly be insured.

Anesthesia.—The statement is sometimes made that the removal of lymphoid growths is not painful. I cannot but believe that such statements refer to the feelings of the operators. I am quite certain that in the majority of cases it is a very painful operation to the patient. The method of removing these growths without a local or general anesthetic is in the main cruel and unjustifiable. The most disastrous effects may be produced upon the moral nature of the child by that method, which I regard as but little better than an assault. Fear is apt to be implanted in the child's mind and the growth is never well removed. Cocaine, while commonly sufficient to relieve pain in adults, and children with a good morale, is sometimes incapable of obtunding sensibility, and even after the freest possible use of strong solutions the pain is great. As I am not a believer in the rapid method of operating for the removal of these growths I will have nothing to say in this paper about the use of the anesthetics which act for a brief period of time, as, for instance, nitrous oxide gas and bromide of ethyl. Chloroform is generally regarded as less safe than ether. Ether is, no doubt, the safest anesthetic, particularly if fifteen to twenty minutes are to be occupied in the extirpation of the lymphoid growth and the removal of the faucial tonsils. When well administered and the child not too deeply anesthetized it has been employed in my practice with complete satisfaction, and in only two or three cases have I seen any degree of irritation of the tracheal and bronchial mucous membrane so often urged as an objection to the use of ether.

Hemorrhage.—I have already stated my conviction this evening, in my remarks upon the upright position, that there is less hemorrhage during operations upon the nose and throat when the patient is in the upright position. During the removal of lymphoid growths in this position the amount of blood lost rarely exceeds two ounces, and usually the loss is very much less than that amount. It is claimed by the advocates of operations without ether that less blood is lost under those conditions than when ether is given. The explanation of that is probably the fact that when ether is given a more extensive operation is performed. There is no evidence that the administration of an anesthetic increases hemorrhage after this operation. The majority of those were known to be hemophilias. It has been the common belief that if secondary hemorrhage occurred and was detected in time that a tightly fitting plug in the nasopharynx would, probably, check it, but this seems not to be true in all cases, for the most painstaking packing of the nasopharyngeal space by competent operators was insufficient in several cases of hemophilia. Many cases of serious secondary hemorrhage after this operation have been arrested by careful packing and it is probable that of the nine deaths reported the majority could have been saved if the hemorrhage had been discovered in time and the appropriate attention given. The proper place for operations of this character is a hospital, infirmary or the patient's home, with an attendant at the bedside or close at hand, for at least twenty-four hours. Blood will not flow uphill and, therefore, if the patient is allowed to remain on his back constantly, a continuous oozing from the wound into the stomach can occur without being detected till too late to revive the patient. This was demonstrated in a case reported by Delavan. With this lesson in mind I make it a rule to instruct the attendant to turn the child upon his side from time to time during the first twelve hours after operation with the face lower than the back of the head, so that if bleeding occurs it will be detected by its escape from the nostrils or lips. The exceedingly small percentage of deaths from the anesthetic or from hemorrhage during or following this operation has occasionally emboldened operators to make the statement that there is no danger in this operation. It is not wise to make such a statement, for it is not a statement of fact and might lead to disastrous consequences.

The Degree to Which the Growth should be Removed.—I regard this as the most important matter for discussion at the present time in connection with the subject of lymphoid growths. The fact that the subject is so attractive to writers that hundreds of papers are appearing upon it every year makes it the more surprising to me that the question of thoroughness of operation is so infrequently brought up for discussion. It is nowhere claimed that it is wise to do an incomplete operation; to leave a portion of tissue remaining in the vault of the pharynx. I am not acquainted with any operative procedure in the whole domain of surgery about which so much laxity is permitted with so little criticism. Is it a question of the saving of time? If so it has no parallel in surgical work. Is it a question of inability to thoroughly clear the pharyngeal vault of the abnormal growth? If so it has not been admitted in any publication with which I am familiar. While it is not advised that the base of the growth should be left, it is often claimed that leaving it does no harm, that the results are just as satisfactory when the removal has not been complete. Unquestionably nasal respiration is as thoroughly reestablished without the removal of all the tissue as when it is completely removed. If the relief of obstructed respiration and the more prominent conspicuous symptoms produced by the disease constitutes our full duty in the management of these cases, then I could agree that partial removal was as beneficial as complete extirpation. But have we no further responsibilities? It is claimed that the tissue left after an incomplete operation is apt to atrophy. No doubt after the age of sixteen in a very large number of cases it does atrophy, but does not the resulting atrophy itself constitute a pathological condition? My observation of these cases after operation, extending over fifteen years, has convinced me that in very many cases the tissue left in the vault does not atrophy, and that when atrophy occurs it commonly leaves cicatricial tissue. That, therefore, whether the tissue does or does not atrophy, the resulting condition in the vault of the pharynx is pathological and, therefore, capable of doing harm in many ways. I do not make the claim that it is necessary to thoroughly extirpate the mass to prevent recurrence, though I believe that recurrence occurs very much more frequently when the tissue has not been well removed; but that we are not doing our full duty to our patients by leaving a considerable amount of this tissue in the pharynx with the hope that it will never do them any harm or that Nature will complete the operation for us. Until it is proven that the tissue thus left is not capable of doing harm, it is our manifest duty to make the utmost effort to remove every part of the growth which it is possible to remove. In my efforts to effect this end I formerly, not infrequently, occupied an hour in the operation. Constant practice has reduced the time to fifteen or twenty minutes. I do not wish it to be understood that I consider the results of these efforts as being always above criticism, but I do wish it to be understood that I consider anything short of an effort to completely remove these growths as an incomplete duty to our patients. When I speak of complete removal in these cases I mean the removal of all lymphoid overgrowth which it is possible to grasp with forceps, thus leaving the site of the growth smooth and firm. Not only should the mass be removed so that the vault, grooves and fossæ about the Eustachian eminences are clean, but the thickened tissue at the lower edge of the growth, just below the velum, requires special attention and should always be well removed. That which I insist upon is that in all cases there shall be an effort made to remove these growths completely. With that object in view the perfect result will ultimately surely be obtained. The kind of work we each do is pretty well known to the other and as we are judged by our work the best reputation for painstaking care, in this class of cases, will be obtained if we keep in mind the possibility of critical observers examining our cases after operation and passing mental judgment on the findings. But from a higher standpoint we should make the best possible effort to remove these growths completely because the greatest ultimate benefit to the patient requires that they should be completely removed. As to the instruments for the removal of lymphoid growths my own preference is for forceps, but it matters little what instrument is used if only it is capable of removing the growth completely. I do not think that any instrument has been devised with which as thorough a removal can be secured as with the cutting forceps. The finger-nail method I believe to be a delusion. It crushes but does not remove. It expresses the blood but does not eradicate the tissue. I employed it for a number of years to finish operations, but abandoned it when I found that the tissue supposed to be destroyed by it was afterwards reproduced. The Gottstein curette is theoretically admirably suited for the purpose for which it was designed, but put to the test it is inefficient and in unskilful hands is a menace to the health of the patient. Wagner of San Francisco has frankly admitted his inability to remove lymphoid growths satisfactorily by the usual methods. The only way that he can accomplish it is, he says, by the use of a double palate hook, a small electric lamp and special instruments acting directly.

It is impossible to treat this subject fully or even satisfactorily in a ten-minute paper. Permit me, therefore, to strain the limit by a minute to make three suggestions: The first is that a mass of lymphoid tissue should not be left untouched simply because it is inconsiderable in amount. A very small growth is at times capable of doing much harm, especially to the auditory apparatus. If there is hypersecretion, or if symptoms referable to the ears are present, even the smallest growths require removal.

The second suggestion is that the patient be kept under observation long enough to determine whether he readily acquires the habit of breathing with his mouth closed, and if not, an apparatus should be adjusted which will insure the closure of the mouth during sleep.

The third suggestion is that the habit which most children with lymphoid growths acquire of bolting their food to free the way for air, be interdicted, for its continuance will, to a considerable degree, mar the brilliancy of the results which should be obtained by operation and by care in the after-treatment.

DISCUSSION.

Dr. Lutz: In regard to the recurrence of adenoids, I have seen a patient who was operated on ten or twelve times for removal of adenoids. She was operated on two or three times at the Brooklyn Eye and Ear Hospital, once at the Long Island College Hospital, once at the New York Ophthalmic and Aural Hospital, twice, I think, at the New York Eye and Ear Infirmary, and four times to my certain knowledge at the Manhattan Eye and Ear Hospital. All this when she was between twelve and sixteen years old. The adenoids were carefully and completely removed the last four times I know, the four operations being done by three different physicians. The last two times the case was examined by several physicians after operation, and a clean, smooth surface was found, and yet the growths returned in two or three months. The removal of the adenoids caused very little loss of blood.

Examined under the microscope, the tissue removed showed a large round cell growth but no definite type of sarcomatous formation. As to operative measures, I prefer the use of forceps, then the curette, then a smaller forceps to remove small particles still adhering. A much better result is obtained by the use of both instruments, than by either alone.

I have taken a Beckman curette and had it bent more, to the shape of Gottstein. I think this is the best shape I have used because the large opening and parallel sides of the Beckman curette do not interfere with the uvula nor soft palate. These curettes come in three sizes, of which I present the largest.

Dr. H. Arrowsmith: In reference to Dr. French's remarks about the small amount of hemorrhage which occurs in operations in the sitting position, I would like to say that I always operate with the patient recumbent, and that in some fifty cases in which I carefully measured the blood lost, it averaged not quite two ounces. This practically coincides with his estimate for his own method of operating.

Absolutely complete removal of adenoids is practically impossible, as the lymphoid tissue penetrates and permeates the mucous membrane down to the subjacent periosteum. I understand, of course, that Dr. French's recommendation implies only as nearly radical extirpation as it is feasible.

Dr. Cox: When I first began to operate for the removal of adenoids, I always did the operation with the child in the upright position, held in the lap of an assistant. I must say that this position is the most natural and easy one for the laryngologist who is accustomed to inspect and treat the throat and nose of the patient sitting in front of him; so that he has the picture in his mind of the relation of the different parts in this position. When the patient is lying down and the operator stands at the side, all this is changed and one feels rather awkward at first—at least I did. But inasmuch as there is such a general disapproval and fear of danger of the upright position during anesthesia, I abandoned my former method and came to operate with the patient lying on the back. This I always do now except occasionally in the case of a very young child. I think the fear of danger of anesthesia in the upright position is well founded; especially when chloroform is given, which I almost invariably employ, principally for the reason that its use is accompanied with much less of that excessive secretion of thick viscid mucus in the pharynx which is so annoying to the operator. Moreover, I believe there is less hemorrhage, because there is less venous congestion than when ether is used.

General surgeons usually prefer Rose's position (that is with the head of the patient drawn over the edge of the table and bent back) for operations on the nasopharynx. I have operated a few times with the patient in this position. Here the topography is entirely changed. There is an actual inversion of everything. I have not pursued this method so far as to perfect myself in it for the reason that I could see no great advantages to be attained by it in the operation for the removal of adenoids. And it has one positive disadvantage, to my mind, and that is hemorrhage is markedly increased.

Dr. B. C. Collins: It has been my experience to observe recently a number of cases of middle ear inflammation follow the adenoid operation in ears that were previously healthy. Two weeks ago I operated on a mastoid in a child where middle ear suppuration shortly followed the adenoid operation. About two years ago I had a similar experience, and yesterday I saw a suppurating ear where the family physician had removed hypertrophied tonsils and adenoids three days previously. The mother stated that the child never before had earache nor any trouble with the ears. In neither of these cases did I remove the adenoids, and I know the operation was done skilfully.

It seems to me that it is a good subject for discussion at this time.

Dr. Hoople: In reference to the point raised by the last speaker (Dr. Collins), that otitis media so often follows the operation, I would suggest that it may be due to the season in which the operation is done; that a "grip" infection favors the involvement of the middle ear.

I have enjoyed very much and profited by the papers and discussion. I am conscious of so much profound knowledge being outside my own head, I am glad to be present to get some of it inside.

One point of interest in connection with adenoids that has not been referred to concerns their exact location. Vacher has pointed out that the pathological quality of adenoids is largely dependent on the closeness of their situation around the flanged end of the Eustachian tube, that the growths might be considerable without being very disturbing, provided they were not too close to the tube and, per contra, that small growths closely hugging the tube might be greatly disturbing. The latter condition often obtains in adults where the mere extent of the growth is not enough to arouse suspicion and would seem inadequate to justify removal unless the importance of their situation is recognized as a factor in their power to produce pathologic disturbance. I would like to learn what observations others have made in regard to it.

I agree with the position taken by Dr. French in regard to the desirability of thorough work in the removal of these overgrowths. Yet I think it unnecessary to "go down to hard pan" to the extent which his attitude would seem to demand. These tissues, whose excess is pathological and whose removal is required because of their hypertrophy and consequent pathological character, are yet constant tissues, are normal to the situation, have a function to perform, and ought not to be entirely cut away. Removal of the excess, the manifest pathological element, would seem to me to fulfil all indications for operation.

A further thought is that the nasal mucous membrane, the septum and the turbinates are pathological in proportion to which the adenoids are so, and that removal of the latter renders the treatment of the former more practicable and efficient. I have no doubt others will endorse this observation.

Dr. Dudley: I congratulate you, Mr. Chairman, upon the success of your plan for the scientific business of this section. Assuredly the four papers of the evening have presented to us, in less than an hour, a most valuable and complete study of the subject under discussion.

The criticism is not infrequently heard that there is a tendency to overrate the importance of hypertrophy of the pharyngeal tonsil as a cause of disease in tissues contiguous, and of faulty development of the general anatomy. But the fallacy of that criticism would be evident to even the most persistent doubter if he could hear the statistics given by Drs. Braislin and Arrowsmith, and it is my belief that in the case of children there are but few conditions of disease that better warrant a thorough understanding by both the general practitioner and the special worker. I would emphasize that, because what is called an "adenoid" is simply the hypertrophy of a gland which is normally a part of the nasopharyngeal structure, it should receive more consideration when we treat certain diseases, well recognized, which affect the faucial tonsils. I have observed the condition mentioned by Dr. Wright, of acute follicular inflammation occurring simultaneously in the tonsil of the vault and those of the oropharynx. Dr. Plossier of Paris has reported the results of an examination of 38 infants and young children who had died of diphtheria in the Hôpital des Enfants Malades; 20 of these had pronounced lymphoid enlargement. In no other infectious disease has so large a proportion been noted. Two of these cases showed false membrane upon both the upper and faucial tonsils, and in one case abundant membrane existed upon the nasopharyngeal tonsil, while the fauces were entirely clear.

I have excised hypertrophied lymphoids in two children who had tuberculosis, but the tissue did not contain tubercles, nor can I discover any reports of such findings, although tubercular ulcers of the nasopharynx are not uncommon.

From its location this tonsil is especially exposed to every infection that enters into our system by the air inspired, and further its surface is not mechanically cleared by the act of deglutition as are the lower tonsils. It is frequently the site of acute and chronic inflammations, conditions most favorable to infection. For these reasons, beside those stated in the papers read, I believe it is imperative that patients having glandular hypertrophy in the pharyngeal vault should have the mass excised, as thoroughly as possible, as a valuable measure of protection. I wish most heartily to endorse the utility of the chair devised by Dr. French. It has been my privilege to test this chair while operating upon the upper air passages of patients, and so I know from experience that he has too modestly stated its value. The retaining straps convert the patient into a part of an appliance, over which the operator has a control that is more absolute than in any other device, and I am sure we all thank the doctor for this product of his ingenuity.

CADWALLADER COLDEN, M.D.

The son of the Rev. Alexander Colden of Dunse, Scotland, where he was born February 17, 1688; he completed his studies at the University of Edinburgh, in 1705, and devoted himself to the study of medicine till the year 1708. A few years later he came to America and began the practise of medicine in Philadelphia, remaining until 1715, when he returned to England, returning a year later, and continued to practice in Philadelphia until 1718, when he removed to New York, where he distinguished himself as a philosopher and statesman. In 1719 became the first surveyor-general of the colony and master-in-chancery. Governor Burnet gave him a seat in the provincial council in 1720. Lientenant-Governor of New York, 1760 to 1776. He took a special interest in botany, being the first to introduce the Linnæus system into America, giving an account of between 300 and 400 American plants.

In 1742 he published a pamphlet in which he showed how an epidemic that had visited New York was aggravated by the filth and foul air in certain portions of the city; an essay on the virtues of the "Bortanice, or Great Water-Dock," which led to his acquaintance with Linnæus; "Observations on Epidemical Sore Throat," in 1753. He was also the author of the "History of the Five Indian Nations," and "Cause of Gravitation."

In 1760 he built a spacious and substantial mansion at Spring Hill, near Flushing, Long Island, which he occupied until his death, September 20, 1776. His remains were buried in a private cemetery attached to the farm.

William Schroeder, M.D.,
Secretary of Historical Committee.

THE BROOKLYN MEDICAL JOURNAL.

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EDITORIAL.

LEWIS STEPHEN PILCHER, M.D., LL.D.

One of the features of the recent commencement exercises at Dickinson College, Carlisle, Pennsylvania, was the conferring of the degree of Doctor of Laws upon the President of the Medical Society of the County of Kings, Dr. Lewis Stephen Pilcher. Great interest attaches to the early history of this institution from a medical standpoint, for it really owes its birth to Benjamin Rush, signer of the Declaration of Independence, first Surgeon General of the United States Army, the most famous of American colonial physicians—soldier, statesman, patriot.. While the name of his associate on the first Board of Trustees, John Dickinson, the Governor of the Commonwealth, was given to the institution, Benjamin Rush, says Dr. Himes, the venerable historian of the college, "by his unwearied, enthusiastic personal efforts, extending over more than a quarter of a century, contributed more largely to the permanent establishment of the institution." For a surgeon of to-day to receive its highest honor from an institution with so distinguished a history, may well be the cause of congratulation upon the part of his friends. Dr. Pilcher was also complimented by election to honorary membership in the Phi Beta Kappa Society of the College.

DEDICATION OF THE NEW LIBRARY BUILDING.

The dedication of the new building of the Medical Society of the County of Kings, which occurred on May 19th, and the complimentary dinner on the same evening to the distinguished guests of the Society, were occasions long to be remembered by those who were present. A brief notice of them is contained in the department devoted to medical news, to be followed hereafter by a full report of the proceedings.

ASSOCIATE EDITORS OF THE BROOKLYN MEDICAL JOURNAL.

The following gentlemen have been nominated by their respective societies and appointed by the Council as Associate Editors, and hereafter their names will appear at the head of the proceedings of these societies:

Brooklyn Surgical Society, J. P. Warbasse.
Brooklyn Pediatric Society, W. A. Northridge.
Associated Physicians of Long Island, C. R. Hyde.
Long Island Medical Society, E. E. Cornwall.
Brooklyn Pathological Society, H. P. de Forest.

We extend to these gentlemen the most cordial welcome, and appreciate most thoroughly their coöperation in the conduct of the JOURNAL.

SHALL THE SPECIALIST DIVIDE THE FEE WITH THE GENERAL PRACTITIONER?

In a paper read before the Missouri State Medical Society, Professor Emory Lamphear, M.D., of St. Louis, Mo., discusses the above question. He quotes the practice in the legal profession of dividing the fee between the attorney and the eminent counsel whose services are obtained for the special case, having been selected by the attorney for his special knowledge. Such division is the common practice and is countenanced by all lawyers. Professor Lamphear asks wherein lies the difference in the medical profession, and states a case, by way of illustration, in the following language: "If a country practitioner have a patient affected with recurrent appendicitis (upon whom he *might* operate with success, but fears possible failure) with a prospective fee of $600, "must he—in order to be 'ethical'—write to some city surgeon to come to his help, take all of the $600 and leave him merely the satisfaction of a duty well performed, or at best the little sum of money he may receive for a few visits at starvation rates? 'Upon what meat doth this, our Cæsar feed that he hath grown so great?'

"Why should not the country doctor plainly say to the specialist: ' have a patient with appendicitis who is able to pay $600. Will you operate for $400 and allow me $200 for the preparation, after-treatment, etc.?' What would be wrong about this? What injustice would thereby be done to (*a*) the patient, (*b*) the attending physician or (*c*) the eminent surgeon? Why should we not learn a few things from the methods of our most noted lawyers, men who are above suspicion as to purity of motives? Have we not hitherto been too unmindful of the financial interests of ourselves and our professional brothers?"

He is very pronounced in the expression of his own view of the subject, and says:

"I insist that the payment of a 'commission' for all business simply 'referred' to a specialist, or for a mere consultation, is probably unethical—certainly demoralizing in tendency; but that division of the fee is perfectly honorable and right when the specialist and the general practitioner jointly share the work and the responsibility."

The question is a most interesting one, and we should be glad to hear it discussed by our readers, to whom our columns are open.

W. B. SAUNDERS AND COMPANY.

It is always a pleasure to record the success of any legitimate business enterprise, and especially so when that so intimately concerns the medical profession as does the achieved success of a large medical publishing house. Mr. Saunders announced some time ago that he had never published a medical book at a loss, which is certainly a high compliment to medical authors. He now announces the association with himself in business of Mr. F. C. Hopkins, Manager of the Subscription Department, and Mr. T. F. Dagney, Manager of the Publication Department. Both of these gentlemen well deserve the advancement which this association carries with it, and it is an assurance to medical readers that the character of the work which emanates from this house will be kept up to its present high standard. Mr. W. D. Watson continues in the management of the Trade Book Department.

"ALABAMA MEDICAL JOURNAL."

The *Alabama Medical and Surgical Age* will hereafter bear the above title. The change in name is made, among other reasons, for the sae of brevity.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

DAVID MYERLE, M.D., EDITOR.

Stated Meeting, Tuesday, May 15, 1900, at the Society Building, 1313 Bedford Ave.

The President, L. S. Pilcher, in the Chair.

There were about 100 members present.

The minutes of the April meeting were read and approved.

REPORT OF THE COUNCIL.

The Council recommend the following applicants for membership:

Michel Achetta, Naples, 1892.
Arthur W. Slee, L. I. C. H., 1899.
Chas. O. Tupper, Jef., 1886.
Chas. A. Haffner, P. and S., 1896.

PROPOSITIONS.

R. C. Baker, 153 South Fifth street, N. Y. Univ., 1874. Proposed by W. A. De Long and D. Myerle.

William A. Fiske, Richmond Hill, N. Y., L. I. C. H., 1893. Proposed by W. S. Hubbard and H. T. Hotchkiss.

James J. Hanan, 232 Garfield place, P. & S., N. Y., 1899. Proposed by T. B. Spence and H. P. de Forest.

ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council, were declared by the Chair elected to membership.

Geo. B. Fielding, L. I. C. H., 1899.
Hugh H. Atkinson, Univ. Pa., 1898.
Dennis W. Barry, Yale, 1894.
Robt. M. Langdon, L. I. C. H., 1898.
Chas. G. O'Connor, P. & S. N. Y., 1899.
Geo. Willeck, Bellv. N. Y., 1893.
Annie M. Garnier, Wom. Med. Col., 1893.
Clarence H. Hulse, Univ. Cal., 1893.
Francis M. Burke, Univ. N. Y., 1890.
Frank C. Skinner, Med. Chir. Phila., 1894.

The Council further reports the acceptance of the following Associate Editors to the BROOKLYN MEDICAL JOURNAL:

Clarence R. Hyde to represent the Associated Physicians of Long Island.

Henry P. de Forest to represent the Brooklyn Pathological Society.

E. E. Cornwall to represent the Long Island Medical Society.

SCIENTIFIC BUSINESS.

"The Surgery of the Liver and Gall-Bladder."

I. "General Considerations." By George Ryerson Fowler.

II. "Abscess of the Liver." By Walter C. Wood.

III. "Tumors of the Liver." By Russell S. Fowler.

Discussion: George R. Fowler.

Arrangements for the scientific work of future meetings:

The President stated that arrangements had been completed for the scientific work of all the future meetings of the Society for the current year. He would take this early occasion to announce the topics, in order that all members of the Society who might desire to take part in the discussion should have the subjects and dates before them. He hoped that a very general part would be taken by the members of the Society in these meetings and discussions.

First he would say that the Committee on Public Health were of the opinion that the discussion on "The Water Supply of the City" would be more fruitful for good if it were postponed until early in the fall. In accordance with this opinion, therefore the special meeting which had been authorized for early June would be omitted, and to this subject had been allotted the regular meeting of *September.*

At the *June* meeting, the discussion of the "Surgical Affections of the Liver and Gall Passages," would be continued, being introduced by papers to be read by Drs. Warbasse, Delatour, and Figueira. At the *October* meeting the "Medical Affections of the Liver" would be discussed, papers being in process of preparation for that meeting by Drs. Murray, Van Cott, and Wilson. The *November* meeting would be devoted to a continuance of the same subject, by Drs. Bartley and Fairbairn. For the *December* meeting had been selected for discussion "Tuberculosis of the Genital Tract." Arrangements for the details of this discussion had been kindly accepted by Dr. H. H. Morton.

Adjourned.

David Myerle,
Secretary.

BROOKLYN PEDIATRIC SOCIETY.

WM. A. NORTHRIDGE, M.D., EDITOR.

Eighth Regular Meeting.

The eighth regular meeting of the Brooklyn Pediatric Society was held at Apollo Hall, 102 Court street, on Friday evening, May 18, 1900, with the president, Dr. Henry N. Read, in the chair.

Dr. Alfred E. Shipley was elected a member of the Society. The scientific program consisted of a paper by Dr. Henry N. Read on the treatment of diphtheria by antitoxin.

The discussion which followed was taken part in by Drs. Hutchinson, Kerr, Bell and W. A. Northridge. Dr. Read closed the discussion.

The meeting night was changed to the second Friday evening in each month.

BROOKLYN SURGICAL SOCIETY.

JAMES P. WARBASSE, M.D., *Editor.*

Regular Meeting, December 7th, 1899.

(Concluded from page 387.)

The President, Dr. Walter C. Wood, in the Chair.

DISCUSSION.

Dr. A. T. Bristow said that he was much interested in the recountal of this case of luxation of the humerus. He agreed with the reporter that it evidently was an old luxation. It had fallen to his lot, he said, to have had several of these cases under his charge within two or three years, and he had twice had unfortunate accidents with them, although using all the care possible. He had not ruptured a blood-vessel, but had twice broken the humerus in attempts to reduce the dislocation. Dr. Bristow stated that he knew of no accident in surgery that requires more judgment on the part of the surgeon than is required in the treatment of old luxations of the humerus. On the one hand we are confronted with muscular disability and often pain; on the other hand we never know exactly how much force either the bone or the vessels will stand. Then with regard to the operative treatment of cases of this sort, we are equally surrounded by danger. The speaker said that he considered the operation of arthrotomy, for the reduction of a shoulder joint dislocation, one of the most formidable operations in surgery, as this operation certainly was which Dr. Pilcher has described here.

Then with regard to the usefulness of the limb after operation: it was Dr. Bristow's opinion that the results are not very encouraging. Almost always the muscles attached to both tuberosities are torn, and not rarely when we get the bone back into the glenoid cavity it will not stay there. He has seen cases in which it became necessary to excise the head of the humerus simply because after it had been released and brought into the glenoid cavity it could by no means be induced to stay there. Then again, even if it does stay there the subsequent usefulness of the joint is doubtful. There is almost always a paralysis of the deltoid muscle after these operations, due to division of the circumflex nerve in the course of the operation, which can scarcely be avoided. The speaker had had a case of relatively large dislocation of the humerus come in his service at the County Hospital some week or two ago, with the following history: She was a very stout woman, weighing probably two hundred and fifty pounds. The dislocation was the lowest axillary dislocation that he had ever seen. It was more than an axillary dislocalocation; the bone lay well down on the axillary border of the scapula and the artery could be felt quite plainly pulsating over the head of the bone. She gave the history that she had fractured both her patellæ and the other humerus all within a few years. This was not a very pleasant prospect for the surgeon, who was going to make an attempt at least to reduce the dislcoation, which was one of about a month's standing. Dr. Bristow had the patient under an anesthetic, and used his best endeavor to reduce the dislocation, but failed. The bone would slip on the axillary border of the scapula, but by no manipulation which he considered wise in that case was he able to return the humerus to the glenoid cavity. He had not used as much force as he was capable of, but he used as much force as he thought was wise with the history of these frequent fractures. Moreover, as he felt the vessel between his finger and the head of the humerus, he thought it was much wiser finally to leave the humerus where it was than to do one of two things: either to break the humerus or injure the vessel.

The next question that came up was the question of operative interference, and he decided against it: first of all, because the woman was suffering no pain from the dislocation; and, second, because she was an alcoholic and was very stout. He knew that he should have a huge wound to deal with, and he thought, all things considered, it was better to leave the humerus alone than to operate. He said that in these old dislocations of the humerus that ought more often than it is be the surgeon's final conclusion. In the endeavor to get these bones back to their sockets we are persuaded by a perhaps pardonable zeal, but often the better judgment would be to let well enough alone. He did not think anybody would accuse him of being unwilling or afraid to operate, yet there are some things, he was perfectly willing to say, that he was afraid to do; and he was willing to let some other man get the glory, if he can do so. In other words, he preferred not to run the risk of incurring the accident, which may be fatal and which is very common. He would rather not go to the extreme point in manual violence in the endeavor to get an old dislocation of the humerus back in place.

As far as the arthrotomy is concerned, he had never done any, although he should be perfectly willing to do one if the appropriate case came under his hands. When we consider what the condition of the soft parts has been in these old dislocations, that the muscles attached to the greater tuberosity have almost certainly been torn; that the sub-scapularis tendon has been torn; that the biceps tendon, one of them, at least, has been torn; that there is existing a very wide laceration of the capsular ligament, it is not very likely that even if we do reduce the head of the bone to the glenoid cavity we will get an arm which will be more useful than the arm left in its dislocated condition. There ought, of course, to be one exception to this reasoning, and that is the existence of pain. If a patient were absolutely disabled by pain resulting from the pressure of the bone on the brachial plexus, Dr. Bristow said that he should be perfectly willing to cut down and, at least, exsect the bone; but his impression in the majority of cases was that we will average a better result if we leave these old cases alone and do not subject them to operative treatment; and he wished to repeat that there is nothing more difficult in surgery to calculate than just the amount of force which can be applied to the humerus to get it back in place without either fracturing the bone or rupturing the vessels. Now it would seem hardly possible, he said, to fracture the humerus in the Kocher method of reducing a dislocation, but he had once met with this accident, and at the time he did not think that he was using very great force, either. Perhaps, he added, he might be regarded as being too conservative in regard to these injuries; but certainly as to arthrotomy for old dislocations of the shoulder joint, he regarded it as one of the most serious operations in surgery.

Dr. William Maddren said that his experience had been somewhat similar to that of Dr. Bristow. In attempting to reduce one of these old dislocations in which the pain was extreme, he had been fortunate enough to fracture the bone pretty well up towards the neck. After fracturing the bone he cut down upon the shoulder joint, removed the fractured portion, and freed and fastened the remaining portion to the glenoid cavity. That patient did well. The pain was relieved, the arm was improved, and there was more motion. The wound healed kindly. He thought we should be specially thankful to Dr. Pilcher for presenting such a case.

Dr. L. S. Pilcher said that he did not call this a surgical failure by any means, but rather a case of extreme surgical interest and of great rarity. It belongs to a class of cases of which there are comparatively few that have yet been recorded, that have always commanded the greatest interest of surgeons, indeed, for the reason that old and unreduced dislocations at the shoulder are of comparatively common occurrence. There are few men who are engaged in surgical work who do not meet with them sooner or later, and it would appear as if the rupture of these vessels was an accident likely to occur to anyone, for they occur, not so much as a result of the violence that is used as to a peculiar friable condition of the vessels in the particular case, and that is the reason why this man had a gangrene of his hand,—not because the axillary artery had been tied, but because his distal vessels were already in a condition of partial block, as a result of advancing disease in his vascular system. His whole condition now, his physical condition, is one of imperfect vascularization. There is no surgeon who would not make an attempt to relieve an old dislocation of the shoulder, however ancient it might be, provided there is serious disability connected with it, and many of these cases have not only a disability as regards function, but they have a disability arising from the severity of the pain which so often attends the condition. He thought that the remarks which had been made by Dr. Bristow erred upon the side of conservatism. Where there is considerable disability arising from an injury of this character, it is justifiable for the surgeon to use a very considerable force for the purpose of relieving it. The fact is it cannot be relieved without the exertion of a great deal of force. If he is not willing to employ such force he may as well leave them alone altogether and not interfere at all in connection with them. It will be before his mind, of course, that accidents may happen and he should be ready to make the best of the accident if it does happen. In the particular case before the society certainly the surgeons had made the best of the accident; wherefore, it was not a surgical failure.

The question, however, is: Shall one, in these cases of old dislocations, attempt at the outset to reduce them by manipulation, forcible as it must be, accompanied by the dangers that do accompany it, or shall one proceed at once to arthrotomy? If one is so situated that he is unable to control his conditions as regards infection, it would, of course, be better for him not to hazard the arthrotomy; but surrounded, as most surgeons now are, with the conditions of very considerable security in the control of infection, it seemed to him that it was reasonable, that it was in accordance with modern surgery to proceed at once to the exposure of the parts and removal of the obstacles which may be in the way of reposition of the dislocated part, and before attempting forcibly to put it back.

In this particular case he had been misled by the history that came with it. It was supposed to be a dislocation of a few days' duration, so he was told when the man was brought into the theatre. He had never seen it before, and he had no reason to suppose there would be any special difficulty in its replacement; and it was not until the developments of the attempts to replace it that its real character was demonstrated. It is true that whether one succeeds in replacing one of these old dislocations by manual effort or only after a bloody cutting operation, the amount of restoration of function may be very much restricted. That is not the result of the surgical effort, but it is the result of the conditions which were already present there before the surgical efforts were begun—it is a part of the injury which the surgeon is trying to better, and if he could have such cases earlier the probabilities are that he would have a better final result after his efforts at improving them. But the greatest lesson which he would draw from this particular case and from the history of the cases in general—the frequent failures to restore old dislocations of this kind—as a matter of regular procedure is to resort at once to the arthrotomy.

Another interesting point was attached to the ligature of the axillary artery. When the ligature was drawn upon that axillary artery, with commendable promptness on the part of the ligator, it was drawn so tightly that the internal coats were ruptured and the lumen of the artery was blocked, so that, although later on the ligature was removed and the artery was left free from apparent constriction, the blocking up of the artery remained permanent. Ligation of the axillary artery is not an infrequent procedure, and the patient shown by Dr. Terry exhibited what the results of ligation of the axillary artery are in a man with healthy arteries. It had been his fortune to see varying degrees of damage follow ligation of the axillary artery, but this dislocation case showed the greatest amount of damage he had yet seen following a ligature applied to that artery; and it was evidently due to the character of the blood-vessels themselves in the distal portion of the man's forearm.

Dr. Bristow said that he should like to remind Dr. Pilcher that he not only tied his axillary artery, but he cut off his circumflex, which is one of the most important branches for supplying an anastomotic circulation.

Dr. W. C. Wood stated that three times he had seen the head of the humerus resected for an old dislocation; and asked if that was what Dr. Pilcher referred to under the term arthrotomy.

Dr. Pilcher rejoined that that was not necessarily implied. He would be guided in these cases by the condition presented when the parts were opened up, as to whether it should be best to put the head of the bone back in its place, or excise the head of the bone that was producing pressure on the nerves and causing the pain, which is the especial reason why the patient submits to operation. The bloody operation by open section is what he referred to, rather than the operation by blind-force-manipulations.

Dr. J. B. Bogart said that, although there is a wide difference between congenital dislocations of the hip and ancient dislocations of the humerus, yet some lessons may be learned from comparing the results of treatment in the two conditions. As is well known, congenital dislocations of the hip have excited a great deal of interest from an operative standpoint in recent years. First the open operation for the reduction of the dislocation was practiced, and later those who originated the open operation devised a better method for reducing the dislocation without cutting. The results are found to be better because the operation is undertaken when the children are quite young, from one to three or four years of age, and also because the functional results are found to be better where no cutting has been done. It seemed to him that this has a bearing upon the treatment of these old dislocations of the humerus. The more we cut the more damage we are likely to do which will result in loss of function, and as we are not aiming simply to get the head of the humerus back into the glenoid cavity but to restore the usefulness of the arm, we should choose that operation which will give us the best functional results; and, although there is a possibility that we may fracture the humerus or rupture the axillary artery or vein, this does not happen so frequently but that in very many of these cases it would be still proper to make a reasonable effort to reduce the dislocation. Unless, therefore, we can decide by the very great length of time that has elapsed since the accident or some other evidence that a forcible reduction would be unsuccessful, it seemed to the speaker that it is our duty to make an effort to reduce the dislocation before opening the joint. Moreover, careful and successful as we may be in avoiding infection in our operative work, there is still a chance in the large joints like this that infection may occur. That is one of the objections against operative interference in congenital dislocations of the hip, and should be considered as one of the objections in the operative treatment of all dislocations of the shoulder joint.

TECHNIQUE OF OPERATIONS FOR REMOVAL OF HIGH LYING CANCER OF THE RECTUM.

Dr. L. S. Pilcher prefaced some remarks on the above subject by presenting a man, aged fifty-eight years, who was admitted to the Methodist Hospital on June 6th, 1899, with a history that for the preceding three months he had felt discomfort in the sacral region upon sitting down; blood had been present in his stools, and frequently stools of mucus and blood alone had been passed and this with increasing frequency, so that when admitted he was passing a little bloody mucus every two hours, in addition he had a normal fecal movement once daily. He had lost much in weight and strength and was weak and anemic. Examination showed between two and three inches above the sphincter an annular, nodular, ulcerated growth involving most of the anterior wall of the rectum, but apparently confined to the wall of the rectum. On the 7th of July an inguinal colostomy was done by Dr. Warbasse, and on the fifth day thereafter an artificial anus was established. At the end of three weeks thereafter the extirpation of the rectum was proceeded with by Dr. Pilcher. The coccyx and the lower segment of the sacrum at the level of the third sacral vertebra were turned back with the skin and overlying soft parts making an osteoplastic flap. The rectum was enucleated after the method of Kraske from the sphincter below and upward as far as to the level of the sacral prominence; the peritoneal fold as it came into view was separated and pushed up until fully six inches of the rectum were thus isolated. In the course of the enucleation a small tear in the peritoneum was made but was immediately closed by suture. Two gauze fillets were then tied around the isolated rectum at about six inches above the sphincter and the gut divided transversely between them; the portion of the gut containing the growth was then stripped down, its attachments severed and it was cut away at the level of the sphincter; the mucous membrane of the sphincteric portion of the gut was dissected out and the stump of the rectum above drawn down through the sphincteric ring and sutured to the margins of the anal orifice, after an additional inch of its substance had been cut away on account of suspicion that the original section had not gone far enough above the disease. After hemostasis of the operative region the bony flap was replaced and fixed by buried catgut sutures; gauze drains were laid and most of the external wound closed by sutures. The shock and loss of blood was considerable, but was relieved by an intravenous injection of sixty ounces of saline solution. Uncomplicated convalescence followed; the cavity within the pelvis about the rectum slowly filled up and ultimately became obliterated and wholly healed after separation of a small sequestrum from the edge of the sacrum which came away about the tenth week.

The conditions which are presented here are: At the anal orifice there is some sphincteric action, though slight. The prostate is healthy. The bone flap is firmly attached with a hardly perceptible lateral displacement. The patient has some control over his bowels; he will have more, according to the history of these cases, as time advances. He feels and knows when he is going to have a movement of the bowels but has to make haste to attend to it at once. He has very little control over gas, and when the bowels are loose he is practically without any control over them as far as the anal orifice is concerned. He has increased greatly in weight and strength and health, and has resumed his occupation as a worker in wood.

At the end of six weeks after the removal of the rectal growth, the operation for *closure of the artificial anus* was done as follows: The edges of the intestinal opening were dissected free from the skin to which they were attached and the mucous edges were sutured together by interrupted silk sutures the knots of which were tied so as to fall into the lumen of the intestine. The gut having been thus closed the external circumjacent raw area was thoroughly cleansed by peroxide of hydrogen and the skin edges were sutured over the line of the intestinal sutures. Thorough cleansing of the abdominal surface now again being made, an elliptical incision was made through the abdominal wall outside of the line of the gut adhesions, and the loop of colon bearing the double line of sutures described was drawn out from the abdominal cavity; the fragments of the abdominal wall adherent to the intestine were then resected off, and the raw surface with the primary suture line was turned in and covered by a second line of seroserous sutures, catching the adjacent serosa of the gut. The parietal peritoneum was then closed by catgut, which also caught the gut suture line so as to hold the sutured intestine in approximation with the abdominal wall. The superficial abdominal wound was sutured as usual. The man made an uncomplicated convalescence; primary healing of the abdominal wound followed; the bowels under influence of laxatives moved daily per anum. At the end of six weeks from final operation he returned to his home. To-day, six months after removal of the rectum the patient is in good health; no local return, no sign of metastasis. The growth as removed was then presented and demonstrated. Pathological examination of it had confirmed the diagnosis of carcinoma.

Dr. Pilcher then presented a second specimen of rectal carcinoma removed from almost identically the same location in a man between sixty and seventy years of age, who had a history of rectal trouble running back for more than a year, pain and disability and loss of weight and strength similar to that described in connection with the previous patient. He was admitted the last of September, 1898, into the Methodist Hospital and was also subjected to primary colostomy. At the end of two weeks the operation for the removing the rectum was proceeded with, the operation having been in all respects similar to that already described, with this exception, that the peritoneum was much more freely opened and that it was closed by multiple sutures at the close of the operation. The amount of loss of blood and shock sustained by the patient was comparatively slight and he recovered from the effects of the operation quickly and was in good condition. Upon the third day thereafter, however, evidences of peritoneal infection displayed themselves and on the sixth day he died. Upon examination thereafter a diffuse septic peritonitis was found to be present.

A third specimen of carcinoma of the rectum was then presented which had been removed from a lady sixty-three years of age, who was admitted to the same hospital on the 11th of April, 1899, with the history that for one year there had been a tendency to constipation, occasionally blood in the stools, and pelvic discomfort, which had finally become constant, with severe pain in the sacral region. More recently she had suffered from rectal tenesmus, pain on defecation, with much blood and mucus in the stools, loss of strength and weight marked. Examination revealed the presence of an ulcerating, nodular growth on the posterior and left wall of the rectum, beginning two and a half inches above the sphincter and extending upward beyond the reach of the examining finger. On the 12th of April inguinal colostomy was done; on the 25th of April extirpation of the rectum through the vagina was proceeded with; the entire posterior wall of the vagina was incised by a median longitudinal cut which extended to either side of the cervix, and the cul-de-sac of Douglas was opened. The rectum was enucleated and drawn down through the wound until the part above the growth was fully accessible in the vagina; two gauze fillets were then tied around the isolated rectum four and a half inches above the sphincter and the gut divided transversely between them. The lower portion of the gut containing the growth was stripped down, its attachments severed, and it was cut away at the level of the sphincter. Hemostasis was effected not without considerable difficulty. It was not so easy to get at the bleeding points through this wound as it was through the parasacral incision in the other cases. The mucous membrane of the sphincteric portion of the gut was then dissected out and the stump of the rectum above was drawn down through the sphincteric ring and out of the anus and sutured to the margins of the anal orifice. Drainage tampons were inserted through the vaginal incision to either side of the rectum back to the sacrum. There was some shock, which was relieved by sub-mammary infusion of twenty ounces of saline solution. The subsequent convalescence of this case was uneventful; the primary gauze drains were removed on the third day; all drains were removed on the twelfth day; and patient returned to her home on the twenty-fifth day with an artificial anus.

At the end of eight months the patient is strong and hearty; she has gained considerably in weight; there is no local recurrence nor sign of other involvement; the artificial anus functions well, and the patient prefers to remain with it rather than incur the hazards of an enterorrhaphy for its closure, with the possibility that the perineal anus should be incompetent. The pathological report confirms the diagnosis of carcinoma of the rectum.

Dr. Pilcher then proceeded to discuss the technic of the operation of the removal of high-lying growths of the rectum, saying that by high-lying he meant those growths which did not involve the sphincteric portion of the rectum and which could be removed without including the sphincter in their removal. Such a growth then may be seated anywhere from two and a half inches to ten inches above the anus. It is only quite recently that the possibility of successfully dealing with such growths has been appreciated by the profession. Indeed, it was so recently as 1885 that Kraske presented his memoir before the German Congress of Surgeons, which may be said to mark the beginning of attempts to deal with such high-lying growths, thoroughly and systematically.

How shall they be reached? There are some of them that can be reached satisfactorily from below, without opening into the peritoneal cavity; there are some which can be reached from below only after opening the peritoneal cavity, and there are some which can be reached only by a combined attack from within the peritoneal cavity and from below. For the gaining access to them there is a great difference in the case of the woman and the case of the man, as to the possibilities of securing access. There are many of them that—as was demonstrated some time ago by Dr. Bristow—can be satisfactorily reached and successfully removed through the vagina, as was the case in the last patient whose history has been given. In the male a parasacral incision is required. Dr. Pilcher had removed entirely in a certain number of cases the sacrococcygeal bone as high up as above the line of the third sacral foramina, for the purpose of gaining access to disease; but the method by which the bone was retained and was simply turned back, the osteoplastic method, shown in the patient who had been exhibited, he had found to be fully as satisfactory as regards the readiness of access which it gives to the cavity of the pelvis as the entire removal of the bone; and when it is possible to so loosen up the upper portion of the rectum as to bring it down to the perineum, it would seem as though the osteoplastic method was to be preferred. When, however, the access to the rectum through the sacrum must be made at such an elevation that it cannot be brought down so as to function as a perineal anus and then has to be brought out higher up, at the upper angle of the incision made for the operation, the osteoplastic flap is in the way; not only in the way, but its repair is very greatly interfered with by the discharges from the rectum at that point, and it is better to remove it entirely.

There is a question, however, as to whether in those cases in which a sacral anus is unavoidable, it is not better to have an inguinal anus. The general trend of opinion at the present time, gathered from the literature of the subject, is that where one cannot have a perineal anus with a reasonable sphincteric power, it is better to have an inguinal anus than an incompetent sacral anus; so that the question as to whether one should have an osteoplastic flap or not must depend on the case, and that in most instances can only be determined as the operation progresses; so it would seem wiser to begin by turning back the flap with the bone in it and then if it is necessary to remove it entirely as part of the final steps of the operation, this can be done.

As to dealing with peritoneal wounds, the primary question as far as a wound of the peritoneum is concerned must of course be its preservation from soiling with infected material, and that introduces the possibilities which are at our disposal in these cases of securing an aseptic condition of the operative field. In the methods of attack which are general—as judged from reading the descriptions and from opportunities of seeing the work of others as well as from the difficulties which he had met with in his own work—he thought that the proper view was to look on the operative field as one that is certainly an infected one, almost inevitably an infected one, and hence the dangers of infection of the peritoneum are very great when the peritoneum has to be opened into. It would seem then that it is highly desirable that abundant antiseptic precautions should be used in dealing with the peritoneum; that is to say, adequate drainage should be provided for in the earlier care of these cases; in the case reported, which died from septic peritonitis, the peritoneum was closed quite satisfactorily, apparently, and drains were laid along the sulci on either side of the rectum up to the peritoneal wound, but that was not sufficient, as the after history of the case showed. In the case of the woman in which the peritoneum was just as freely opened there was no attempt to close the rent in the peritoneum, but the drains were laid through the peritoneum into the peritoneal cavity and functioned well from the day they were laid in place until they were removed. He attributed the unfortunate ending of the fatal case to the lack of drainage of the peritoneal cavity coupled with the infected condition of the operative area. The point which he emphasized by way of recommendation would be that under ordinary circumstances, when there is any considerable tear of the peritoneum or soiling or handling of the peritoneum, it is best not to attempt to close it absolutely, but to let it remain open with a suitable drain lying within.

What resources have surgeons for preserving the operative area from infection? The first resource evidently is the diversion of the fecal current to another opening by the formation of an inguinal anus. That was done in all these cases, and it would seem as if it was a resource that from this particular standpoint was not only to be recommended but was absolutely essential if one is to secure an aseptic condition of the operative area. The gut having been opened in the inguinal region, the fecal current having been transferred to that point, then the later cleansing of the rectum below by repeated irrigations is to be attempted. It is quite apparent that the absolute cleansing of the gut by anything in the way of antiseptic irrigations is out of the question. Nevertheless, a very considerable reduction in its septicity undoubtedly can be accomplished by careful and continued and repeated and thorough irrigations with such solutions as boracic acid, borosalicylic acid and peroxide of hydrogen. Then at the time of the operation itself the gut, after being cleansed, can be again mopped out and dried to a considerable extent and much of the detritus from the ulcerating, breaking down carcinomatous area can be removed and the cavity can be filled in part, at least, with such an agent as iodoform gauze.

The group of cases in which one may find it necessary to remove the whole of the rectum, anus and all, presents another resource for preserving the area of operation aseptic, namely: After the thorough cleansing of the parts, as has been already suggested, the anal orifice itself can be closed by a purse-string suture and after its closure by the purse-string suture the parts about it can be again thoroughly disinfected and then the whole thing taken out as if it were a cyst which was not to be ruptured; and if one carries that bit of technic through successfully —and with care it can be done—the disadvantages arising from a septic condition of the sacral wound can be avoided just as well as the disadvantages connected with a septic condition of a wound in the anterior wall of the abdomen are overcome. In such a case as that the wound of the peritoneum would be a matter of less concern to us and the necessity of providing for its drainage would be less apparent and imperative.

There have recently appeared a number of articles upon the removal of growths in the rectum which reach above a point accessible through such a sacral opening as that afforded by the Kraske incision. The method which has been employed is that which is termed the *combined abdominoperineal* or *abdominosacroperineal incision.* It is exceedingly attractive from a surgical standpoint, and it commends itself to acceptance and adoption from the asepsis and through extirpation of the disease which it makes possible. The name which is associated more particularly with it is that of Quénu of Paris, and the method as finally perfected by him may be stated as follows: The lower portion of the rectum having been, as far as accessible, cleaned out by enemata, and by moppings made as dry as possible, the anal orifice is closed by a purse-string suture. The patient then lying in the dorsal position, the abdomen is opened in the median line as if to have a pelvic operation of any kind. The sigmoid loop is then isolated at a point sufficiently high above the point to which the growth extends, and also so located as to make the upper part of the intestine which is to be left, a movable one —and doubly ligated and cut transversely across; the mucosa exposed is dried and seared over with the actual cautery, so as to disinfect it. Both of the cut intestinal ends are covered by a suitable protecting cap of gauze or rubber. A buttonhole is made in the left inguinal region and the upper end of the intestine is drawn through it and fastened by three or four sutures in place and then covered up and left for the time being. The lower end is pulled to one side so as to make the right internal iliac artery accessible which is to be ligated. Then the internal iliac artery upon the other side is also exposed and is ligated. The peritoneum on either side of the remaining portion of the sigmoid is divided longitudinally so as to permit of the freeing of the rectum from its peritoneal bonds as low down as can be reached from above. The intestine thus freed is pulled up and over in front of the pubes, whereby its posterior attachments are put upon the stretch, and particularly the inferior mesenteric vessels are brought up into the field and ligated. This having been done the gut is to be stripped up from the remaining connective tissue attachments from the anterior surface of the sacrum as far down as the finger can be carried. It is quite possible in many cases that the rectovesical or the recto-uterine peritoneal fold may likewise have been divided in the course of this dissection as described. The parts having been enucleated and freed as far as possible from above, are now simply dropped down into the pelvis and covered in by one or two compresses while the anterior abdominal wound is closed securely. Then the patient is placed in the lithotomy position and the anus is circumscribed by an incision which is extended upward as far as is necessary; if necessary the coccyx may be removed or a portion of the sacrum if it is found to be required to gain access to the parts below, but ordinarily this will not be required, but the section from below can now be conducted quickly and easily, without any hemorrhage, until the lower attachments of the rectum have been severed, the gut has been enucleated, and the whole thing taken away en masse. That is the combined abdominoperineal operation of Quénu of which he reports some ten or more instances of its performance; in certain cases with an uneventful convalescence, but in about half the cases with death therefrom owing to the bad character of the cases upon which the attempt was made. It is simply transferring to the rectum the technic which surgeons are familiar with in the removal of the uterus, the same thing which the pelvic surgeon is doing frequently in his removal of the carcinomatous uterus. It will be seen that this method enables him to identify and to remove any intrapelvic tissues which may have become diseased and to make absolutely a perfect enucleation of the disease itself provided it is within the possibilities of enucleation, that is, if it is an operable case at all. The operation commends itself particularly from the fact that as described it secures an aseptic condition to the field of operation, excepting—and here is a very important exception—in those cases in which in the course of the traction to which the parts are more or less submitted, they are torn. Such a tear is likely to take place at the point where the greatest amount of infection is present, in the friable, thickened, ulcerated and broken-down part of the cancer itself, so that great care must be exercised in restraining one's attempt at the forcible traction upon any such mass while it is being enucleated and drawn down. Such danger is connected with it, and if such accident occurs, there is a very large area over which the infection may be distributed. In this method it is apparent that the inguinal anus must be permanent.

DISCUSSION.

Dr. Wm. Maddren asked if, in the last operation described, the French operation, the author states anything in regard to the rapidity of recurrence.

Dr. Pilcher replied that of the four cases reported by Quénu which recovered, they had been followed only for a few months, when they were reported, at which time they were still well, but their later history is yet to be recorded.

Dr. A. T. Bristow observed that in regard to a case in which he had exsected the rectum through the vagina, taking out five and a half inches of the rectum, the patient died a little over a year afterward. At the autopsy a condition which is sometimes described by the pathologist as starvation intestine was found. The intestine everywhere was completely collapsed, and at the site of the old peritoneal wound there was no evidence of any opration whatever. Nature had repaired the parts so perfectly that they looked as if they had never been touched. There was no recurrence at that point. There was recurrence, however, in the vagina itself, but not of sufficient magnitude apparently to have caused death at that time.

In the operation, which was the first operation in this country of excision of the rectum through the vagina, the speaker had practically no trouble with hemorrhage. The rectum shelled out easily, the attachment of the levator was caught between clamps and ligated before any chance to bleed was given. The patient required no infusion, and her temperature did not reach 100°. Dr. Bristow had previously done a colostomy, and there was one point he would like to make, which he had not understood the author of the paper to emphasize, and that is the wisdom of a preliminary colostomy in every case preceding ablation of the rectum. He doubted whether it is wise to close the colostomy opening after the removal of the rectum for the reason that it is rare for any sufficient control to be gained through a perineal opening. Even in this very beautiful case shown by Dr. Pilcher, there is really no control; and there is an additional element of risk infused into the case by closing the colostomy wound, and that is the question of irritation if the fecal mass be allowed to resume its customary course over the former site of the cancer. We all know what an important bearing that has on the original genesis of carcinoma, and certainly there must be some bearing on recurrence; therefore in general he thought it safer to leave the inguinal anus.

Dr. W. C. Wood stated in reference to this subject of freedom from recurrence that a lady came to him who had been operated on for carcinoma of the rectum about two years previously by a member of this society. At that time she was suffering from stenosis of the rectum, but there was no evidence of recurrence. He did a colostomy for her, which she still is unwilling to have closed up. He had not seen the woman since, because at that time there was no evidence of any further recurrence. He believed that there is no recurrence in that case to-day, and it is about two and a half years since the operation was performed.

The only case of the Kraske operation which he had done he unfortunately lost at the end of one week from a low peritoneal sepsis. He had not drained the peritoneal cavity, which he regarded as the defect in the operation.

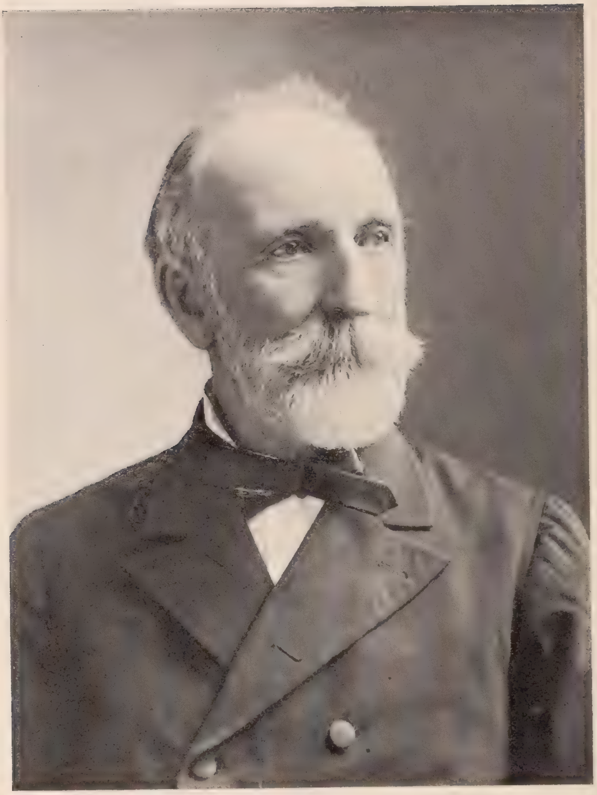
HISTORICAL DEPARTMENT.

CHARLES E. WEST, AM., M.D., LL.D., P.D.

After all that has been written in the public press relating to the life and character of the late Prof. West, to add something new would require an extra effort. Still it is always pleasant for a friend to say a few words. Many years ago the writer was introduced and made the acquaintance of Prof. West, not at his home, nor in the school-room, but in the old book-store. We often speak of men and books, but very seldom we say a word in regard to the satisfaction which is derived when we happen to secure an old book which seems to be the one above all others we most desire, and after we have the prize, and paid the price, which as a rule is more than we ever expect to realize for the same, should we ever so far forget ourselves as to dispose of it, the next question is how to get that book into our library without any one at home seeing it. This is the hardest work of a collector. The different methods have been so beautifully depicted by the late Henry Ward Beecher in his Star Papers that I need but refer to them.

On many an occasion that little group of book collectors would chance to meet in the Old Book Shop with Prof. West as the central figure, and listen with marked attention to his criticism and general knowledge of men and books. The subject matter was of little moment to him, as he was well versed in every department of learning. We shall miss him at his old place; we shall look for his counsel and advice; his smiling face, his genial disposition are but a memory of the past; but such a

CHAS. E. WEST, M.D.



JOHN COOPER, M.D.

pleasant memory that one is willing to carry it with him during life's journey. May this little group of book collectors referred to have the privilege at this time of expressing their love and esteem for their old friend; their admiration for his honesty of purpose, his high literary attainment, and above all his interest in the welfare of his fellow-man. An honor to any profession he may have selected as his life work, may we all profit by the life he spent among us, and those who were privileged to call him friend, and who have been benefited by his advice and counsel, will ever hold sacred the memory of the genial Prof. Charles Edwin West.

He was born in Pittsfield, Mass., Feb. 23, 1809, and died in Brooklyn, N. Y., March 9, 1900. He was educated at Union College, graduating A.B. in 1832; A.M., 1843; receiving the degree of A.M. from Columbia in 1844; M.D. from the University, City of New York, 1845; LL.D. from Rutgers College of New Jersey, in 1851; P.D., conferred by the Regents of the University, State of New York, 1890.

He was admitted to the bar of the Supreme Court of the State of New York in 1844.

His principal work was in the line of education, from 1839-51. He was principal of Rutgers Female Institute from 1851-60; principal of the Buffalo Female Academy, and from 1860-89 principal of the Brooklyn Heights Female Seminary.

He was one of the founders of the American Association for the Advancement of Science; first President of the Council, Brooklyn Institute of Arts and Sciences; Director in the Hoagland Laboratory; member of the Brooklyn Clerical Union; Fellow of the Royal Antiquarian Society of Denmark; Fellow of the Royal Microscopical Society of London; honorary member of the Medical Society, County of Kings.

Among his writings will be remembered "The Fiftieth Anniversary of the Class of 1832 of Union College," in 1822, 8vo; "The Prison Ship Martyrs" address, 1895, 12mo, and "The Microscope," in 1898.

The following may be of interest: The first man in America to sit before a camera, in 1839; the camera being made by George W. Prosch of Nassau street, New York. John W. Draper, M.D., LL.D., took his wife's picture. Samuel F. B. Morse, LL.D., took his daughter's picture, and George W. Prosch took the picture of Prof. Charles E. West.

William Schroeder, M.D.,
Secretary of Historical Committee.

MEDICAL NEWS.

CHARLES DWIGHT NAPIER, M.D., EDITOR.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

At the recent meeting of the American Gynecological Society, held in Washington, Dr. Charles Jewett was elected first vice-president.

Dr. Charles P. Gildersleeve has been appointed attending surgeon to St. Peter's Hospital.

Dr. Harry W. Lincoln has received the appointment of gastrologist to the Bushwick and East Brooklyn Dispensary.

Drs. Wm. V. Pascuale, Edward G. Hynes, Geo. E. Deely, and John G. Williams were selected for the incoming house staff at St. Mary's Hospital.

At St. Catherine's Hospital the successful candidates announced are Drs. Joseph T. Daly (L. I. C. H.), and Wm. T. Allen, Ralph A. Hoyt, E. E. Wilson, and R. L. Carswell (P. and S.).

M. F. DeLorme of the graduating class at Long Island College won the Dudley Memorial medal, and F. J. Weigand received both the Chauncey L. Mitchell and the Corydon L. Ford prizes.

Dr. Ezra H. Wilson has been given charge of the pathological as well as the bacteriological department at the German Hospital, Dr. Wm. Moser, the Pathologist, having been transferred to the medical staff.

The position of examining physician for the seaside home is filled by Dr. A. P. Northridge, and Dr. C. S. Cochrane is the physician to the *Tribune* fresh-air fund.

At a meeting of the Queens Nassau Medical Society, which was held at Mineola, May 29th, Drs. John Larry of Long Island City and Edwin A. Goodridge of Flushing were elected delegates to the Medical Society of the County of Kings.

The meeting of the American Medical Association the first week in June took many Brooklyn men to Atlantic City. Among those present were seen Drs. John Byrne, Sherwell, Winfield, Bodkin, Chas. H. Shepard, Bartley, Wm. Browning, Geo. R. Fowler, Arrowsmith, Oatman, Ager, Raynor, Jonathan Wright, Mayne, Jarrett, and Yerdon.

The tenth annual dinner of the Hospital Graduates Club was held at the Montauk Club May 25th. All but one of the original members of the club were present. Dr. Burnett, formerly of Brooklyn and latterly practising in Stockbridge, Mass., being in Maine on account of his health. Judge Wm. B. Green, Benjamin F. Butler, and Walter H. McIlroy were present as guests, and added much to the pleasure of the occasion with story and song. Several presentations, of interest to the members, were made during the dinner.

The Zeta Chapter, A. K. K., of Long Island College, held their annual banquet May 9th, several well-known members of the profession, who are honorary members, being present.

Dr. Mark Manly, who has been quite ill, has gone to the Adirondacks for the summer.

Dr. Adolph F. Erdman of Degraw street was married June 4th, to Miss Emma W. G. Rood, daughter of Mrs. Sarah J. Rood.

On June 6th Dr. Guthrie R. Winder of Franklin avenue was married to Miss Ione Hood Smith.

A new feature was introduced at the April meeting of the County Society—the conversational half hour. The officers of the Society, and the members of the membership and entertainment committees were present to introduce those lately joined. Numbers of old and new members improved the opportunity of becoming better acquainted. This should become a regular custom, and all would find it of interest and benefit to avail themselves of it.

Dr. Joseph H. Hunt again accepts the duties of Chairman of the Historical Committee, after having laid them aside for the two years during which he was President of the Society.

Probably the most interesting and important event in the year to the members of the Medical Society of the County of Kings was the formal opening on May 19th of their new home on Bedford avenue. But a brief account of the meeting will be made here, as the addresses will be given in another issue. The exercises were opened with an invocation by the Rev. Dr. A. J. Lyman. Then followed addresses by George M. Gould, M.D., President of the Association of Medical Librarians; James R. Chadwick, M.D., Librarian of the Boston Medical Library, and Abraham Jacobi, M.D., Chairman Board of Trustees, New York Academy of Medicine. Dr. William Maddren, Chairman of the Building Committee, transferred the buiding to the Board of Trustees, and Dr. Frank E. West, as Chairman of the Board, accepted it and transferred the same to the Society. The President, Dr. Lewis S. Pilcher, responded for the Society. Benediction by the Rev. John P. Chidwick, U. S. N., closed this portion of the day's program. Following these exercises a reception was given to the ladies. The interior of the building, beautiful in itself, was made more so, being tastefully decorated with dogwood. Owing to the more than unpropitious weather, the attendance during the afternoon was not large. The committee of the day, who planned the entire proceedings and to whom the greatest praise and thanks of the Society are due, consisted of Frank E. West, Chairman; Wm. Browning, Secretary; Wm. Maddren, Charles Jewett, and George McNaughton. The guests of the Society were entertained at dinner at the Farm House, Prospect Park, covers being laid for forty. The dinner was served at small tables, and after the coffee one from each table was called upon to speak, Dr. Pilcher being the toastmaster. Drs. Gould, Sedgwick, McLean, Bartley, Fairbairn, McNaughton, G. R. Fowler, Bristow, and West responded. Much credit is due Dr. Calvin F. Barber, Chairman of the Entertainment Committee.

The Associated Physicians of Long Island held their seventh regular meting on June 16th, in the Northport Yacht Club, at Northport, the Long Island Railroad, through Dr. J. F. Valentine, providing a special train. The scientific program consisted of papers by Dr. James Cole Hancock of Brooklyn, on "Trachoma," and on "Milk Supply for Infant Feeding in the Country," by Dr. J. Finley Bell of East Hampton. The first paper was discussed by Drs. J. Scott Wood, J. W. Ingalls, and J. D. Sullivan, the latter by Elias H. Bartley, J. D. Trask, R. L. Dickinson, W. H. Zabriskie, Wm. B. Gibson, and Chas. Jewett. Dr. Bartley's paper was laid over to a subsequent meeting. The meeting was opened with an address of welcome by the Rev. J. H. Stansbury of Northport, followed by an address by the President, James M. Winfield. Dr. Clarence R. Hyde, Chairman of the Publication Committee, reported relative to the publication of the transactions of the Association, this volume having been previously issued to the members, a work which reflects great credit upon him, as well as doing honor to the Association. An invitation was received from the village of East Hampton to hold the October meeting in that place, the Association to be the guest of the village. The invitation was accepted. Twenty-one new members were elected, ten being from Brooklyn. After the meeting the members were taken in charge by the committee representing the Yacht Club and the village, and both in yachts and in carriages, given an opportunity of seeing the beauties of the place. The day wound up with a bountiful repast in the club, and with speeches from Dr. J. P. Heyen, Commodore J. P. Morrell, Edwad M. oehr, Rev. Mr. Lawrence, Drs. J. D. Sullivan, J. H. Hunt, and J. M. Winfield. Fully sixty members were present, and there were many guests from the village and physicians from near by places.

CORRECTION.

The Christian name of Albert H. Brundage, M.D., in the first insert of the June issue of the Journal was incorrectly given as Amos.

NEW BOOKS AND BOOK NOTICES.

All books received by the* JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.

THE NERVOUS SYSTEM AND ITS CONSTITUENT NEURONES. By Lewellys F. Barker, M.B. With 2 colored plates and 676 illustrations. Cloth, $6.00. New York. D. Appleton & Co. 1899.

With some of the chapters of this work we are familiar through their advance publication in a N. Y. journal. It is a monumental volume of 1122 pages; there is an abundance of illustrations, though not always equal to the originals; the subject matter is elaborately handled in the text, and the publishing part is well done. It is more comparable to the second volume of Koelliker's "Gewebelehre" than to anything else, though dealing somewhat with gross divisions. The subject is everywhere approached from the point of view of the neuron, and might also be termed the "Comparative Anatomy of the Neuron."

It is not the place here to discuss closely the material of this book. Granting its excellence and that it is a credit to American scholarship, we may properly call attention to its scope and some of its features. In the first place it contains little that is new; nor do we now expect that in the authoritative treatises from Baltimore.

Much of its space is taken up with discussions and the presentation of disputed points. In fact this is done to an extent that makes it unsuited to the undergraduate student, and very indeterminate even for the neurologist. This impresses one as its most criticizable feature. Doubtless the state of knowledge leads to circumspection in conclusions, but dogmatic teaching makes us somehow feel more definitely that we are following a master. The table of contents gives the chapter titles of only a part of the work.

The neurones of the second order that make the bulk of the brain receive comparatively brief consideration, doubtless because less studied as yet.

The Wilder terminology is followed in part, though usually not to an extent to be appalling.

The circulatory part of the (central) nervous system is not taken up.

Besides the more technical matters, a multitude of interesting problems are touched upon: as the central relations of the so-called upper and lower facial, the peripheral sensory areas, the functions of the cell-groups of the oculomotor nucleus, Flechsig's theory of association centers, etc. For the multitude of facts and literary references it will long be standard for consultation.

If the gifted author keeps on he will become somewhat of a medical "Teddy." Educated at Toronto, he became prominent at Johns Hopkins; is a clear and free writer; recently went on a tour of study to the Philippines, and is now a double professor at Chicago. May we hope that this new environment will not hamper his industry. WILLIAM BROWNING.

CHRISTIAN SCIENCE, An Exposition of Mrs. Eddy's Wonderful Discovery, including Its Legal Aspects, Etc. By William A. Purrington, Lecturer in the University and Bellevue Hospital Medical Colleges, etc. New York. E. B. Treat and Company. Pp. 194. Price, $1.00. 1900.

This volume includes papers published in the *North American Review, Medical Record* and New York *Sun,* and should be read by every physician in order that he may know just what Christian Science is and what the advocates claim for it. It should also be read by every other intelligent person that he may be prepared to do his share in overthrowing one of the most monstrous of latter-day pretensions. Mr. Purrington is deserving of the thanks of the community at large for what he has done to arrest the progress of the greatest humbug of the century.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 411th Stated Meeting, Thursday, February 8, 1900.

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION V.—WILLARD G. REYNOLDS, A.B., M.D., CHAIRMAN.

Malignant Growths of the Throat and Nose (Illustrated by the Microscope) 563
Jonathan Wright, A.B., M.D.

Carcinoma of the Larynx; Laryngectomy; Specimen 567
Algernon T. Bristow, A.B., M.D.

Congenital Absence of the Trachea; Specimen (Illustrated). 568
William A. Payne, M.D.

Hyperostosis of the Ossicles; Specimens 569
Henry A. Alderton, M.D.

Necrosis of the Ossicles; Specimens 569
William C. Braislin, M.D.

Malignant Growths of the Throat and Nose (Illustrated by the Microscope).

Jonathan Wright, A.B., M.D.

The section shown under the microscope is from a malignant tumor of the nose of a woman whom I saw through the kindness of Dr. Cox. The tumor has been slowly growing for about a year and a half, but had not been seen by Dr. Cox until a week before I saw it. There were enlarged glands in the neck. The neoplasm sprang from within the nasal fossa, from a point impossible to see, though evidently somewhere on the outer wall, perhaps from the anterior end of the inferior turbinated bone. It distorted the nose considerably; it had bled slightly, and gave but little pain, but its peculiarity lay in the slowness of its malignancy. Carcinomata and epitheliomatous tumors which spring from the inside of the nose are very infrequent. A tumor in this situation is usually a sarcoma and growths in this region, as a rule, are very rapid in their malignancy.

A piece had been cut off with scissors for examination. This procedure usually, in sarcoma of the nose, causes profuse hemorrhage, but this woman had but little. When I saw her a large mass protruded from the right nostril and also into the nasopharynx. These are essential points in the history and have some bearing on the microscopic appearance. When I came to examine it it seemed to be made up mostly of endothelial cells, which apparently sprang from the endothelium of the lymph spaces. And if the rest of the tumor presents the appearance which this piece does, it is probably an instance of endothelial sarcoma of the nose. A great many things are called endotheliomata which are really nothing more than spindle cell sarcoma, but a glance at this preparation under the microscope shows that its structure is exceptional.

Malignant disease of the nose and throat presents a marked difference in the clinical and pathological course according to its site. The malignant tumors of the nose, in a large majority of cases, are sarcomata of the inside of the nose. There have been a number of cases of epithelioma reported beginning within the nose, but they are comparatively rare. The course of malignant disease in the nose is very rapid as a rule, but to this there a few exceptions. There is one marked exception, and that is certain growths which spring from the cartilages of the septum of the nose. I am uncertain whether these growths, which under the microscope are indistinguishable from various forms of sarcoma, especially the spindle cell sarcoma, have a comparatively benign clinical history. Those that look like a round cell sarcoma are usually safe, but the spindle cell growths certainly behave extraordinarily on the cartilaginous septum. The operation of scraping or cutting out is not at all a radical operation; these growths are very slow to recur, sometimes not for a number of years, and frequently they do not recur at all. They furnish a marked contrast to other growths which apparently, according to the microscope, are sarcoma within the nose.

Malignant disease of the tonsils, as you know, is a very malignant form of growth. I have seen a number of them. They usually run from six to nine months in their history and they are usually composed of small round cells. They are very frequently inoperable and I have seen several of the cases given Dr. Coley's toxine, though it is said that sarcoma of the tonsil is not a favorable growth for the use of the erysipelas toxin. Nevertheless, I know the history of one inoperable case, which I followed microscopically, which entirely recovered under the use of the toxines. It was a case of Dr. Hopkins, of ordinary tonsillar hypertrophy in a boy of 13; the tonsil was removed and after a few months it recurred. The first removal was thrown away, and the recurrence was sent to me for examination. I examined it microscopically and I could not see how it differed in any way from the ordinary lymphoid hypertrophy of tonsil tissue; it had lymph nodes in it exactly as you get in normal lymph tissue. That was the second removal. It recurred again in a few months, was again removed and sent to me, and then it began to show the characteristic structure of a round cell sarcoma, and yet not perfectly distinct. The lymph nodes had all disappeared from the growth, but the cell proliferation of the intracellular structure made me, with the clinical history, pretty sure it was sarcoma. It recurred a fourth time and at that time it was removed by some extended operation I believe, and it again recurred and there was a large mass filling the throat. He was given the toxin and the neoplasm shrank inside of four months to a comparatively small volume and has remained stationary. I relate this case because it is so exceptional in the history of these cases.

There are a few facts in connection with malignant disease of the larynx which it may be well to keep in mind. One is the tremendous disproportion between malignant disease of the larynx in women and in men; the proportion is five or six times larger in men than it is in women; some statistics given have even been much higher than this. The usual form of malignant disease in the larynx, in marked distinction to that in the nose, is of epithelial character, usually an epithelial carcinoma. I believe, however, this character of malignant growths in the larynx does not hold true for the trachea; singularly, a very much larger proportion of malignant growths of the trachea are sarcomata.

Another point of interest in regard to malignant disease of the larynx is the peculiar situation which theoretically would be supposed most favorable for operation upon malignant growths. We have here a malignant growth which is bound very soon, in this day of specialists, to attract attention. A very little swelling of one vocal cord will induce more or less permanent hoarseness. This sends the patient to the doctor's office and a diagnosis should be made at a very early stage. I know hardly any other place in the body, unless it is the eye, in which malignant disease should be recognized at such an early stage, and it is therefore of the utmost importance that when such cases as this do come under observation that the diagnosis should be promptly made.

Another reason why it is a particularly favorable place for carcinoma to develop, so far as surgical means is concerned, is the fact that it is within the cartilaginous box of the larynx and when it is well down within the box there is not very much communication between the outside and inside by means of the lymphatics. For a long time the carcinoma within the larynx remains, so far as we can know, a local disease and metastasis outside the larynx do not occur until a comparatively late stage.

The unfavorable aspect of these cases for operation is that being in the airways the operation is of itself grave and the result of operation in destroying the function especially grave, so that complete laryngectomy is discarded by a great many authorities as an unjustifiable operation.

The question of diagnosis in these cases is one of very great importance and sometimes of difficulty. These growths if they are touched with the endolaryngeal forceps, or if any attempt be made to remove them the majority of observers agree that the growth will rapidly take on an active malignancy, when before they had been comparatively dormant. Without the hope therefore of total extirpation by means of the endolaryngeal forceps some have claimed it is an unjustifiable way to attack them; yet in order to make a diagnosis you frequently have to take out pieces. The theory is that you are starting up a malignancy that will rapidly result fatally.

It seems to me that where you meet a middle-aged man with hoarseness extending over several months, and a papillomatous growth in the larynx is demonstrated, the dangers and the necessity for diagnosis should be explained about as follows: "You have a growth within your larynx which may be malignant; the removal of a piece of it by the forceps will probably settle the question by the microscope, but unless you are determined, if it be a malignant growth, to have it thoroughly extirpated by an external operation, you had better leave it alone and let time make the diagnosis." If it is a case of papilloma a few months' time will tell whether or not it is of that nature and won't make a great deal of difference; while, if the patient is not fully determined to have the growth extirpated, interference with it by an incomplete operation will frequently set up malignancy, and the case will end all the more quickly for this incomplete interference.

73 Remsen Street.

Carcinoma of the Larynx; Laryngectomy; Specimen.

A. T. Bristow, A.B., M.D.

This is a specimen illustrating some of Dr. Wright's remarks. It is a cylindrical carcinoma of the larynx which was recently removed by laryngectomy, with total extirpation of the larynx and the first ring of the trachea. The patient has done perfectly well and is able to take solid food to-day. I fully agree with Dr. Wright that when a piece of these growths is taken out for diagnostic purposes, and the findings show it to be a malignant growth, an operation should follow at once. When this growth was originally seen by Dr. French, who referred the case to me, there had already been a history of nearly two years of hoarseness and the ordinary symptoms of laryngeal growth. A fragment was removed and a diagnosis made. The growth more than doubled in size in six weeks, although it had been a quiescent carcinoma for two years. That fact always ought to be borne in mind in excisions elsewhere. It is not justifiable to take out a piece of suspected carcinoma of the tongue unless you are prepared to operate in a very few days, because otherwise it grows with enormous rapidity.

With regard to these laryngeal carcinomas, the dangers of the operation under modern precautions is much minimized. I did this under nitrous oxide in the Trendelenburg position; the patient at no time was in any danger, and smiled at me before he was off the table. The effect of the nitrous oxide anesthesia passed off almost at once. In less than a minute the patient is under no anesthetic at all and that is of enormous advantage in operating in these cases. If these cases are taken early, before the growth is out of the cartilaginous box, as Dr. Wright says, and if they are operated upon by modern methods, in the Trendelenburg position, and also if nitrous oxide is given instead of ether or chloroform, the proportion of successes will be much increased.

234 Clinton Street.

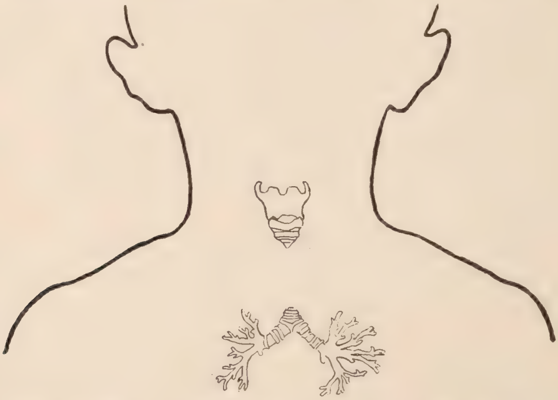
DISCUSSION.

Dr. George R. Fowler stated that unfortunately, even with the best technic and the most skilful operator, the prognosis in any case of malignant disease of the upper air passages was very grave. The administration of nitrous oxide during the entire time of the performance of the operation is a procedure which he had carried out himself some years ago in a case of total excision of the larynx. The operation lasted ninety minutes and was an exceedingly difficult one. In that case, as in Dr. Bristow's case, the patient came out of the anesthetic almost as soon as it was withdrawn and there was no difficulty in keeping the patient completely under the anesthetic for the entire time of the operation, nor was there other difficulty met with in the administration of the nitrous oxide. This was taken through a specially constructed attachment, the Trendelenburg tube devised by Dr. Brush, and at no time was this apparatus in the way of the operator.

Congenital Absence of the Trachea, Specimen (Illustrated).

William A. Payne, M.D.

Congenital absence of the trachea is rare. This child was born cyanosed, artificial respiration was maintained for a long time, and finally an attempt at tracheotomy was made and failed, owing to the fact that the trachea could not be found. The case came to autopsy and although I found the bronchus on either side connected with each other by a slender cross-passage between the two lungs, the trachea was absent. Below the larynx there was nothing but a triangular piece of cartilage with the apex downward. (See illustration.)



CONGENITAL ABSENCE OF THE TRACHEA.
Presented by WILLIAM A. PAYNE, M.D.

Kings County Hospital.

Hyperostosis of the Ossicles; Specimens.

Henry A. Alderton, M.D.

In order that the case of hyperostosis of the ossicles of the ear may be fully appreciated I shall pass around first a specimen showing the ossicles of normal size. Fortunately in these specimens showing the normal ossicles another interesting condition is shown—that is a lack of bony continuity in the roof of the tympanic cavity. A hole exists in the roof of the tympanic vault about an eighth of an inch in diameter, and this is of special importance if fulminating cases of meningitis following on an ordinary middle ear suppuration be remembered.

In the second specimen the stapes are generally thickened to three times the normal size, and the incus and especially the handle of the hammer are also very much larger than the normal. The handle of the hammer instead of being nearly straight is much curved. This condition is not often recognized except on section, but we do sometimes see cases which this recalls to my mind in the living person in which the handle of the hammer, the only part that can be seen, is much larger than normal.

194 Joralemon Street.

Necrosis of the Ossicles; Specimens.

William C. Braislin, M.D.

Necrosis of the ossicles is one of the complications of chronic middle ear suppuration. I have chosen this title for a subject because it presents a phase of middle ear suppuration which may be readily illustrated, and which at the same time graphically demonstrates one of the results of the damage effected by this disease.

A glance at the chain of ossicles as they are contained within the middle ear shows why they are commonly affected by chronic suppurative processes occurring in the vault of the tympanum, a process fortunately less common than the form of middle ear suppuration confined to the lower half of the middle ear cavity.

The more common form of middle ear suppuration as it occurs in young children is an inflammation of the atrium, or that portion of the tympanic cavity lying below a plane horizontal with the short process of the malleus. This form of middle ear suppuration is a comparatively simple matter. Pain and discomfort occur but for a single night, rarely, at any rate, are prolonged, and are often so slight as to attract no especial notice on the part of the parents. Cleanliness alone, such as is effected by immediate warm water and a well constructed ear syringe, as a rule works a speedy and satisfactory cure.

A wide step separates, clinically, the inflammation resulting in a suppurative process involving the vault of the tympanum. In these cases the perforation through which the pus finds an exit is situated usually in the *membrana flaccida.*

Dammed up in this narrow compass inflammations in this region are among those which occasion the medical attendant anxiety and tax his patience and skill in treatment. Pus in this region has a comparatively unobstructed pathway to the mastoid antrum, while the direct involvement of the small bones composing the chain of ossicles frequently causes the condition we are considering—necrosis.

In long continued cases of suppuration, especially with perforation of Shrapnell's membrane, necrosis of one or more of the ossicles is to be considered as a possibility, if not a probability.

In many cases of long continued suppuration the entire membrane is destroyed and occasionally the entire chain of ossicles is necrosed away. It sometimes happens that after this extensively destructive process the tympanic membrane is regenerated with entire healing of the suppurative process. Nature herself, in this case, assumes the part of the surgeon. Unfortunately this natural outcome is rare.

In tubercular inflammation of the middle ear the ossicles are sometimes very rapidly destroyed. In one of my recent cases with a previous history of cough for five years, the ossicles and great part of the walls of the tympanic cavity were destroyed (dating from the beginning of the discharge) in four months. This patient died under the care of his family physician of (apparently) tubercular meningitis.

The incus appears to be the ossicle most frequently found necrosed, probably owing to its lying directly in the path of discharges from the antrum.

Not uncommonly the incus is found absolutely lacking as a result of destructive necrosis in chronic suppuration.

It is unnecessary to say that surgical precepts demand the removal of necrosed ossicles at once they are positively diagnosed, and when continued suppuration does not yield to ordinary methods of treatment. The only exception to the procedure I know of is in cases of advanced tuberculosis, when of course the local condition is subordinate to the general tubercular infection.

The presence of one or more necrosed ossicles is frequently the sole cause for indefinitely continued middle ear suppuration. The following case is an example:

Miss M. D., 17, since childhood discharges from both ears. The malleus and incus of right ear were not present, having destroyed by the previous inflammatory process. The stapes alone was present and this I removed. The head of this bone was necrotic. The result was a cessation of discharge within a week. The hearing has greatly improved so that she now hears ordinary conversation without difficulty, this having been previously impossible.

[Numerous ossicles exhibited.]

The incus of all the ossicles is the one most frequently necrosed. Here is an incus which is necrosed and here is a partly necrosed malleus. It is unnecessary to say that necrosed ossicles must be removed when they are diagnosed.

217 St. James Place.

DISCUSSION.

Dr. Sheppard showed a number of specimens to illustrate necrosis, selected with the idea of showing the great extent of destruction met with sometimes.

Necrosis of the ossicles should be looked upon as a much more simple process than is generally believed. There has been a good deal of discussion even among aurists as to whether necrosed ossicles should be removed for the cure of this disease. The pathology is simple. A very thin covering of periosteum overlies the bone; that periosteum is destroyed and caries of the bone results. This caries should be looked upon in the same way that the general surgeon looks upon caries of the bone anywhere else. The case is not apt to heal until we do get rid of it. If we had caries of the tibia we would simply cut down and scrape it and get the case to heal up. The only reason we do not scrape the ossicles is because they are too small, but if we accomplish the same end by simply removing the bone, and we certainly get good results in America. Germans do not agree with these views. In Germany they taboo the mere removal of diseased ossicles and perform the more extensive skull operations, thus missing the chance of curing the case by simple measures and not always succeeding with the more extensive operation. If all the carious ossicles be removed more than fifty per cent. of the cases will recover no matter of how long standing the disease may be. I have seen them cured up readily; in fact I have seen them cured up without ever having to syringe the ear after the operation, and that too where the process had been in existence over forty years. Why we should open the mastoid and cut the bony canal away to get at the ossicles and throw it into one large cavity, is beyond conception, but that is what our German confrères are doing all the time. In America operators simply remove the diseased bone and the case heals up.

It is evident that no case of prolonged running of the ear should be allowed to go on. If it does not heal up in a short time by ordinary measures, this operation should be recommended and done. The vast majority will then get well without any difficulty.

One patient who had a tuberculous process came to the hospital bringing one incus in a box. He said another bone had come out of the other ear some time previously; the malleus was lost from one ear and the incus from the other ear, and while he was being treated the second incus was shed spontaneously, leaving only the remaining malleus to be removed.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 8.
WHOLE No. 152.

BROOKLYN, N. Y., AUGUST, 1900.

Single copies 25 cents
$2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

LEGAL RESTRAINT IN THE TREATMENT OF DISEASE.

BY R. C. F. COMBES, M.D.

Read before the Brooklyn Society for Neurology.

This problem always has and will probably remain a serious one, and belongs to that branch of forensic medicine of which much has been said and written, but it still remains to be solved in a satisfactory manner. The writer approaches it with little hope that he will be able to add much more than words to a subject that is already threadbare. That class of cases which would naturally come under this heading, but which belong to contagious or infectious diseases; also cases of acute brain disease, I wish here to exclude as the laws which now control them are fairly satisfactory. The laws in regard to the insane, although somewhat cumbersome and complicated and afflicted with the clause requiring personal service, and which from personal observation I believe is against the interests of the public, rather than for them as intended, are, however, fairly satisfactory, but that class of cases now known and spoken of as chronic alcoholism, dipsomania, chronic drug habit, etc., are those to which I wish to call your especial attention. Some physicians and many laymen believe that there is a middle ground in many cases, a sort of station between responsibility and irresponsibility, between the ordinary intoxicated man and the confirmed inebriate, where a certain class of patients dwell. Many of these patients through shame, sentiment, or fear of publicity on the part of relatives or friends, are kept on the side of sanity and responsibility entirely too long for their good. The medical man should be very careful in taking his stand, as he is frequently placed in a position where he will be open to severe criticism, especially where large sums of money are involved. He is frequently called upon to decide as to the propriety of restraint or non-restraint, and of course where the question of personal liberty is involved, it is a very delicate one. The writer is of the opinion that there is no middle ground, no station between; every person is either sane or insane, responsible or irresponsible. When the physician is called upon to act in such a case a very prudent question for him to ask himself is this: Will legal restraint be an advantage to the patient or not? By answering this question without allowing sentiment or prejudice to enter into the case he will be liable to arrive at a proper conclusion. Every physician must carefully avoid placing himself on record as favoring the restraint or confinement of a person who is only the victim of a little too much wine, a condition which is only functional and will pass off in a few hours. He must carefully draw a line between this condition and the one where, after continued abuse of alcohol or a narcotic drug, they have produced a pathological condition with the symptoms of which all my hearers are, I have no doubt, familiar. We cannot be too careful where we draw this line, and cannot study each individual case too thoroughly; because this question is liable at any time to arise in court, and unless you can give good reasons for your opinion you will have trouble without end. The medical and legal professions to a certain extent seem to be arrayed against each other in the consideration of this condition, and I cannot understand why, because the good of the patient should be a mutual desire. It seems to me that the question is purely a medical one, and that the legal men ought to relinquish whatever opinions which they might hold in the premises and accept the opinion of the physician, but lawyers and judges all have their own opinions. With all due respect to our jurists, I am inclined to the belief that they frequently allow sentiment to enter the question and take too much stock in the pleadings of counsel who, in some cases, take advantage of the mental condition of the patient and defend him when they (the counsel) know full well that the case is in need of legal restraint and control, but there is frequently a good excuse for an erroneous opinion on the part of the judges, and this opinion is formed because the physician fails to make clear the facts in the case and to defend his position when asked to do so by the judge. The legal men are used to dealing with facts and will not accept an opinion which cannot be substantiated by argument or fact. I, however, have noticed that a busy judge will sometimes become perturbed and does not allow the medical man time to explain himself. That, of course, is the fault of the judge. The presence of two or more factions of relatives with different views as to the propriety of restraint in a certain case often gives rise to a great amount of trouble, and frequently aborts the ends of justice and robs the patient of the last chance of redemption that remains.

In many cases they will place their opinion much in advance of the medical man, who has made the question a lifelong study, and in fact, many of the cases are decided by relatives and do not come under the observation of the physician until every chance has passed for treatment to be of avail, and until the patient has squandered his last dollar and turned his relatives into the street. The policy of the bulk of the medical profession has been in the past and is to a great extent at the present time to separate widely and arbitrarily true cases of insanity from the so-called cases of chronic inebriety or drug habit. I can see no good reason why this line should be drawn at this place. It seems to me that the two affections are enough alike to be considered at least under one general heading and treated in a similar manner, as the latter are recognized by some authors as insane. They are certainly alike to the extent that they both require legal restraint in certain cases. We must admit that certain cases of insanity are successfully treated at home and without legal restraint, *e. g.*, the simple melancholia patients or those commonly known as nervous prostration are frequently successfully treated at home, but I doubt if ever a case of chronic alcoholism was successfully treated at home. I always feel that there is a much better chance to treat a case of melancholia at home than a case of chronic inebriety, and believe that I would be much more certain that my patient would get well. To my mind, however, the only proper place to treat either of these conditions is in a well regulated institution for the purpose. Some will argue that the continued association of these patients with others of the same class is liable to have a bad effect on the patient. Experience does not prove this, but proves the contrary; indeed, patients suffering with these diseases, if suffering with decided delusions, are too much absorbed in them to pay much attention to others, and the others not so absorbed can compare their conditions with that of other patients, and in that way see the fallacy of their beliefs and correct them. Again, the patients are kept away from the constant irritation produced by the presence of their friends. It is the experience of all medical men in the care of the insane that one visit from the friend of a patient has resulted in more harm to the patient than his medicine has done good. Patients that are absorbed in their own ideas, especially those suffering with melancholia, are particularly desirous to be let alone, and are much perturbed by any effort on the part of a relative or friend who attempts to persuade them that they are in the wrong. They are aggravated by the arguments, and if left to themselves will do far better and drop the delusions much more quickly than if they are tormented in this way. The friends cannot see this, and will not believe it when told by the physician. The layman cannot seem to grasp the situation and will continue to persist in his efforts to set the patient right. I have had many times the friends of patients tell me that they have persuaded the patient that there is no truth in his delusions, and go away with the belief that they have cured the patient, but when they call again find that they are mistaken and that the idea is more firmly seated than before. Again, with the chronic inebriate a visit from a relative is liable to be followed with the same results. A visitor calls to see his friend after he has been in an institution a few days and the functional effect of the poison has passed off, and the patient states that he is now well, and he can see all of his mistakes, and that he is now boss of the situation, that he no longer has a desire for the whisky, and states that they need have no further fear of a relapse. At this time the patient is liable to gain his freedom, and inside of twenty-four hours have seen him so intoxicated that you could not believe that he was the same individual. This teaches us, when this experience is repeated a number of times, as it generally is, that these patients suffer with an impairment of their inhibitory powers, which prevents them from keeping their word. In this respect he is like the melancholiac. He does not even wish to think of the stimulant, but he cannot help it. The thought comes to his mind in the same way that the painful ideas come into the mind of the person suffering with melancholia. How often have I had a patient tell me that he tries to think of something pleasant, but the painful thought is sure to take its place and he is helpless to keep it out of his head. This argument should prove that legal restraint is an absolute necessity in the successful treatment of that class of cases whose inhibitory powers have become so impaired as to make the person an irresponsible being so far as controlling his desire for stimulants. Now, the question arises, can the impaired inhibitory powers be restored to their normal standard and the pathological condition be removed? I contend that they can, provided the disease has not advanced too far. You ask me what to do? My reply is the same as in the management of any other disease, find the cause and remove it. We know that Nature is the great restorer, and she asks you to give her time by placing the patient under legal restraint. You ask me how much time? She replies by saying that that depends upon the extent of the damage done, and if it has gone too far she will not agree to make it complete. You ask me how much time an ordinary case that has not advanced too far, and my reply is that there is no established rule, generally one year in cases that have not lapsed, and two or three in cases that have gone back. I of course do not believe that these patients are entirely safe after having once reached a certain point, but I consider it far better that a man should even end his days in an institution rather than to be allowed to go on to complete destruction. I contend that it is unkind, unjust, and unfair to a fellow-being who has become the victim of this disease to treat him in any other sense than a sick person. His friends, through ignorance, are liable to say that it is all his own fault, that he could do better if he tried; but they are in error. The confirmed inebriate is just as irresponsible as most insane people, and I believe should be pitied rather than blamed. You will say that he had the power to control it when he began! I answer that is true, but now he is suffering with a disease which is the direct result of the abuse of a toxic agent which has proved to be a very dangerous one in the hands of many people. We must here remember that no man takes his first drink with the intention of becoming an inebriate, and has confidence in his ability to control all of his desires. We all know that certain toxic agents have a widely different effect on different people; one person can continue such articles, *ad libitum,* but with another it produces a disease which has cost many a fine man his life as well as the complete destruction of a beloved and devoted family, and the annihilation of a fortune. The patient suffering with this disease is like a man sailing near the rapids of Niagara, who is hailed from the shore and from other vessels, and told that the rapids are below, that there is danger, and that he must make every effort to save himself. He sees the danger, makes every effort to get hold of some object to which he can cling for protection, but the current is too strong and he goes on until he goes over the great precipice from which there is no return. We as medical men are charged morally with the responsibility of preparing for them a haven of refuge, and I confess that very little has been done by us in that direction. The several terms by which these diseases are known are already confusing, but none of them seems to signify the condition or define it. I have attempted to contrive a word that would cover the ground, and while I am aware that it is not perfect, I believe that it is a better term than the one now in use. The word dipsomania is a good one, as far as it goes, but it does not include the drug habit cases, it merely conveys the idea of a morbid craving for drink. As all articles which create habits are of the nature of stimulants, I have thought it well to call this condition stimulomania, which as I would understand such a term, would signify a morbid craving for stimulants, whether of an alcoholic or drug nature. We as medical men are obliged to admit that there is such a disease as I speak of, and to my mind it is closely related to or is a true insanity. Clouston goes so far as to include as insane, those persons suffering with acute alcoholism as being truly insane within the meaning and intent of the law, and recommends their commitment to institutions for the insane in the regular way. I quote: "The most typical alcoholic insanity is delirium tremens, or acute alcoholism. That this is described in ordinary text-books on practise of physic, and is treated usually at home or in a general hospital, and is of short duration, does not make it less a true insanity." He says further on: "Such cases are now often certified as insane and sent to asylums for treatment, and but for the idea connected with an asylum they are best treated there." I cannot say that I fully agree with this great author in this respect, and am inclined to the belief that if you include them you must also include all cases of delirium or coma which arise from toxic influences. This would include the delirium of typhoid; also the conditions arising from all septic influences, as well as acute inflammations. It is my opinion that persons suffering with the direct effect of a drug or alcohol should not be considered as insane, but when a true degeneration of nerve or brain plasma has actually taken place from the continued abuse of these articles, the disease should be classed and treated as true insanity and certified as such, but we should bear in mind that these pathological changes do not take place in a day or a week, neither are they removed in a day or a week, and on that account the symptoms which they produce are prolonged for a length of time out of proportion to that of cases of delirium tremens, and I believe that this one symptom should be the great guide in the differential diagnosis between the two affections. In my opinion where the mental symptoms persist for a period of two or three weeks the case may justly be counted as true insanity, but no person can lay down a rule that will apply to all cases, and the good judgment of the physician must here be depended upon. Much of our trouble in these cases comes from a want of ability on our part to properly define the word insanity. We all have an idea what is meant by the term, but few of us will venture a definition on the witness stand, and will then preface it by saying that it cannot be satisfactorily defined. In this case if a man will keep in mind the intent of the law he will often save himself much trouble and annoyance. He must also remember that no person shall be deprived of his liberty without just cause or provocation and without due process of law, and must be personally incapable of choosing for himself what is best for him. Until our knowledge of the finer anatomy of the cerebral structures is better understood, and the anatomical principle of mental pathology is employed, we will have difficulty in presenting facts to substantiate our beliefs, but we must content ourselves with what we have until such time arrives. That in some cases it is difficult to draw a line between them is true; in the one case we have a contributing cause which is to a certain extent under the control of the patient, especially at the beginning of the disease. We have in both conditions a certain train of symptoms which are practically pathognomonic, *e. g.*, we have in both excitement, a loss of inhibitory powers, impaired memory, a loss of self-respect, a loss of affection for former friends and relatives, states of decided exaltation and depression, hallucinations of sight and hearing, sleeplessness, motor incoördination, delusions of persecution, suicidal and homicidal impulses, perversion of special and common senses, a change from a truthful man to the worst liar that can be imagined; in fact, in most cases as complete a change in the mental faculties in the one disease as in the other. It has been my fortune on several occasions to present to a Supreme Court judge a certificate of lunacy for his approval, and in almost every case I have been asked this question. "Is this patient dangerous to himself or to society?" or "is this patient insane within the meaning and intent of the law?" These two questions are of the greatest importance, and should be answered with the greatest of caution. Let us see what constitutes a patient that is dangerous to himself or to society. With the insane the person suffering with melancholia is the most dangerous to himself; while the man suffering with paranoia is the most dangerous to society, but all insane are to a greater or less extent dangerous to themselves and to society. For some unknown reason many members of the medical profession have come to the conclusion that the patients suffering with the disease which I choose to call stimulo-mania are harmless, that they are not dangerous to themselves or to society. This impression seems to have been handed down by tradition or other means, but why, I am at a loss to explain. Imagine a man coming home to his family, as they come home and begin by making all sorts of threats, demanding stimulants, breaking dishes and furniture, and in fact, doing many acts of violence which would eclipse many cases of acute mania. Is such a man dangerous to society? Certainly. They are dangerous to themselves in so far as, while they have been known to take their lives in the same manner in which a melancholiac does it, the liability is not so great; but they select a process which to be sure is slow, but I believe just as sure, which to my mind is suicide, and of the very worst variety. It is suicide by the use of a poison. So much for the question as to being dangerous to themselves or society. The next question which we have to answer is, is a patient suffering with this disease insane within the meaning and intent of the law? I contend that he is, and from the symptoms which he presents I cannot see why we are not justified in claiming that such is the case. How many of these people remain without stimulants if they can be obtained? We know that patients suffering with this disease will lie, cheat, or steal in order to obtain them, and with these propensities we seldom find them without the selected article, and again I have seen them just as unreasonable without as with them, when they think that by resorting to threats they can get the desired stimulant. Again, a patient is not sound mentally merely because he can talk on certain subjects; indeed, almost all insane can converse on some subjects in a rational manner, but they have, like the melancholiac, lost their inhibitory powers or these have become so impaired that they are no longer able to control themselves or manage their affairs. I believe that all of my hearers will agree with me that it is necessary to control these people, but I fear that some of you will not agree with me as to the way to do it. To me the only way that seems feasible is to so educate the medical as well as the legal profession to look upon these cases as they look upon cases of insanity at present, and to adopt a similar course of procedure in their commitment as with insane at the present time. The old way of bringing these patients before a Justice of the Peace and giving them ten days on the technical charge of vagrancy is, I believe, a disgrace to an enlightened people. In recommending this course of procedure I am aware of the fact that certain patients might take advantage of the State and wish nothing better than to be sent to the State Hospital, there to obtain free board, but most of these patients can and should be made to work, while in the institution, and in that way assist to support the family to which they owe a living. I am inclined to the belief that, if a medical certificate of insanity, properly worded, were presented to a Supreme Court Justice for approval, and a full explanation of the facts as they exist were made, he would commit the patient under the law as it now exists. In fact, I hardly see how he could decline, provided the physician insists that the patient is insane within the meaning and intent of the law. In my experience the judges are very just and fair-minded men and wish to see justice done without fear or favor. If the judge is convinced that the patient is in need of treatment and that the restraint would prove a benefit to him and that it was not a move on the part of some designing relative or pretended friend with an ulterior motive to confine a person who should not be confined, he would sign the certificate. I may be a little premature, but as I see the case the problem will eventually come to this. It may be necessary to modify our existing laws somewhat and add a clause specifying a certain period of detention, but it is my opinion that the existing laws cover the case fairly well. I would suggest that a conference of the judiciary be had with medical men and a thorough understanding had in the matter. That there is a crying need for a move to be made in this matter no medical man who has had experience in this line will question. Indeed, they are all anxious for relief for their patients, but seem not to know how to get it. I am advised that there is now a bill before our legislators the object of which is to in some way control this class of patients and to establish a separate hospital for their treatment, and I sincerely hope that if it is drawn on proper lines, and that the patients are to be considered as patients and not as criminals, it will pass. The bill should, however, provide for that class of private patients who have money with which to pay for the service and whose friends desire privacy to which they are entitled. To recapitulate, I have only to say that the physician must be certain that a pathological condition really exists, and that the destruction of mental faculties has reached such a point as to make the patient irresponsible and not able to properly control himself or his affairs. I trust that I have succeeded in making my ideas clear in the minds of my hearers, and that this paper will provoke an extensive discussion or one in keeping with its importance, and that the medical and legal professions will not allow the matter to rest until we have provided a suitable means of treating a class of cases which are just as much in need of treatment as any with which we come in contact.

DISCUSSION.

Dr. L. D. Mason, by invitation, opening the discussion, said he had been interested in the subject for many years, over thirty-three years having had the care and control of inebriates during a large portion of that time in institutions under the law, not cases of insanity due to alcohol, but habitual drunkards committed to his care under the law made by legislation and charter, but which was eventually side-tracked here on the excuse that the condition was a moral disease, not physical, or against the law and could be better controlled by those means than by State law and control, but that law had operated well. The friends applied for a summons; patient was arrested; justice, after inquiry, would give a modified order of the court to the institution for six months, and then a recommittal with distinctions for paupers and those well conditioned. There was a bill now before the Legislature, having been presented by a committee, furthering the matter, to do away with the short term and fine and for a State institution, as Dr. Combes hoped would be done. The Continental history of inebriety is interesting. There they regard and treat him as one not fit to be at large, dangerous to self and community, and against whom severe laws are enacted, different in various countries. For instance, in France and Germany the habitual inebriate is disfranchised and punished for the time being. In Austria he is classed with the incompetent people, the common opinion throughout all the countries being that they are dangerous to themselves and the community.

Dr. Combes's paper is thoroughly exhaustive and covers the modern view of the inebriate, both scientific and medical, with all of which he agrees, including his hopes for such a law and so operated as to help these incompetent men and commit them, and not such a makeshift of a law as we now have.

The bill in which he is interested defines a chronic inebriate as one arrested many times (in one case as many as four hundred) which on the score of economy is a strong incentive to control the intended inebriate, the bummer, and rounder. In the Boston Mayor's report of the penal institutions of Boston, which, by the way, is a most interesting report, he found fifty inebriates who had been arrested fifty times each, making twenty-five hundred arrests for this lot, and costing Boston each time one was arrested eight dollars. You can see what that amounts to. Then at Deer Island, the penal settlement of eight thousand, the per capita cost of each prisoner is eighty-four dollars per year, making a total of over sixteen thousand dollars a year for the cost to the city of these fifty inebriates, which is only a flea bite to the amount expended in Greater New York, where it probably is over one hundred thousand annually in arresting and rearresting these objects of society, no good to themselves or the State. The subject bristles with so many points that it is difficult to know where to begin and where to leave off. Many are worthy of a section of a paper, and some a pamphlet in themselves, but the doctor has epitomized the matter so well as to cover the ground; he is glad that the condition is now recognized as a disease, for formerly inebriates were thought to be cranks, as they were not considered diseased, but they always had his sympathy.

Dr. Barber, continuing the discussion, said the subject was a broad and wide one. Before the question of the care comes the question of the cause of alcoholism; then the cure or prevention will follow. In many cases there is a strong taint of hereditary tendency toward it. For instance, mother an habitual drunkard and sons follow in her footsteps. In other families will run some other peculiarity, but in these cases, as one he had in mind, the mother died of alcoholism, and one of her sons; the other uses to excess, and also has the peculiarity of intense desire for money, not to save, for as fast as he gets it it goes, still wanting more, bearing out the idea of some form of insanity. They are far from the normal condition; something else existing besides excessive thirst for liquor, and when so found should be committed to the care and only in an institution, if at all, like the opium habitué. There are a greater number of the former than the latter. They should be confined under the law, and the more stringent the better, and for long terms. A week is useless and never made a radical cure. The longer the better, and even then some are never cured, no matter how long. He has had them under his care for a year, and in twenty minutes after their discharge back again in a wheelbarrow, beastly drunk. They are bound to have it, no matter how. Some can give it up—have moral and will force enough to stop it. He thought we should have a State law committing all such cases to an institution for six months to a year, then paroled, and if break down, on notification brought back as at the State Reformatory and Epileptic Colony, and where they can work at their trade or other work and so benefit the institution and their families in many instances for life. Some are very brilliant men—lawyers and writers—after their release again go to pieces, they would be much better off in an institution where they would be under control and could continue their work and value, as is the case in Connecticut, where the judges can commit them for the term of one year. Found institutions first and then have able men to run them. I know it is a serious question of restraint, but yet it has to be. The female side of the question is a bugbear. Out of 200 cases, 30 will be females; they are more troublesome and require a special place. Let us go over the ground, consult with the doctors and formulate a law, then have a joint meeting with the judges, with the medical men, and by this means come to a better understanding, so that they will realize that they are not simple drunkards and let it go at that, but that they require a long term in an institution with the privilege of parole.

Dr. Mason: I would like to say that the bill in which I am interested commits for a term of three years with privilege of parole, the same as insane asylums, or if thought proper six months with the same privilege.

Dr. Morton: As to term of commitment, a year is nearer a just term, and then have a law allowing the committing justice punishment for second and third offence; three years is too long an absence from bosom of family; restraint is best advocated for the care of this class of people, but consider the question of their commitment carefully.

Dr. Mason: There is another bill in which, beside the three-year term, in which five commitments before a magistrate in two years gives this term. The first commitment, as now, to jail, and cumulative sentence for each commitment to fifth, after which the cases are considered incorrigible and they are given the long term.

Dr. Barber. This of course refers to pauper patients, the rich being committed to private institutions.

Dr. Lloyd expressed his deep sympathy in the question and at our helplessness in the absence of legal control. Organized bodies should take hold of the matter and present it before the general public.

Dr. Wilsey: This is a very interesting and great subject. These cases should not be committed as insane, as there is a great difference between insanity and drunkenness. Let us have the law with us, which means legislation; and a law covering commitments will be a good thing. In law all drunks are not insane; they are not insane in our view of insanity. For instance, I had a week ago the case of a violent drunken man. After detention next day he was perfectly clear. Surely there was no insanity in that. He liked the place where he could get no whisky, and will give it up and remain. The question is, how long to hold these cases; when to discharge them after commitment, and admit them as voluntary patients. Another case: A lawyer found his son drunk in a hotel, with no law to control him except in Connecticut; in disgust, applied in vain to County and Supreme Court, and family physician made out certificate of insanity, which I found contained some false statements. I allowed it to die, but the man remained three months, recovered, was nominated and elected to office, and now his father is in Albany trying to have a law passed to care for such cases as his son's. They are dangerous to themselves, and will not recover if not placed under treatment. Personal service is a grand, good thing if the examining physician insists in his portion of the certificate of presenting the patient to the judge, so that he may know all the facts about the case before he signs the order, and so avoid, especially in paranoiacs, lawyers' habeas corpus proceedings and expenses. Unless original hearing has not been like that I will not receive a case unless the court has held such an examination of the case. It is a difficult thing to explain what is insanity. We know what it is, but we cannot explain it. Let us have a law for the inebriate when we petition, as in cases of insanity, the Court for an order. Then the judge can issue a summons, the family physician and others interested can be witnesses at the inquiry, and patient can produce his testimony. Then let the Court take the responsibility of commitment, with a parole as an active factor, same as in the State hospitals now for State insane.

Dr. Brush said: Mr. President—After listening to the excellent paper of Dr. Combes and the remarks of the speakers, it seems to me that the fault lies entirely with the medical profession itself. As has already been said, we have no definition of insanity. It is therefore manifestly absurd for us to ask for something until we can tell what we want. I think that the law, which must necessarily deal with facts, is perfectly ready to grant our wishes when we can state them clearly. The law has such a definition, which is that a person is insane when, by reason of such disease of his mind, he has lost his understanding. It rests on the old metaphysical idea that every person is born with an immortal soul, which has a knowledge of right and wrong, and that unless he has lost his understanding he is responsible for his acts. The law does not, therefore, recognize moral or instinctive insanity. This we know, as physicians, is not altogether true; but public policy also forbids its recognition, as in that case we should have to turn all our prisons into insane asylums. As to the doing away with the right of habeas corpus by legislation, that is impossible. That right existed in England before statute law, and is reaffirmed both by the Constitution of the United States and of our own State.

Dr. Barber said he was misunderstood. What he intended to convey was not that inebriates were insane, but that they had some of the traits which characterized such people.

Dr. Combes wished only to reply to Dr. Wilsey regarding the matter of personal service in committing insane patients, as showing what a bad method it was in some cases. He had had a paranoiac committed to his care who had been personally served and examined by the judge, and yet was one of the most troublesome cases he ever had; and in another case, a melancholiac, who brooded over the matter for six months and it was the cause of his continued depression and lack of ultimate recovery.

PNEUMONIA.

BY J. M. CLAYLAND, M.D.

Read before the Medical Society of the County of Kings.

Pneumonia is an acute inflammation of the lungs, produced by the growth of germs in the air vesicles and bronchial tubes, and the constitutional poisoning due to the absorption of their toxins.

The pneumococcus was discovered by Sternberg in his own sputum and called by him micrococcus-Pasteuri.

In 1883 Talamon isolated it from the lungs of pneumonic patients and reproduced pneumonia in rabbits by inoculation. It is usually found in the mouths and trachea of healthy persons.

As found in the sputum it is a lance-shaped or oval diplococcus of varying size; in cultures often occurring in short chains, and surrounded by a faint capsule, resembling mucin. It grows in all common, faintly alkaline culture-media at the temperature of the body. It does not grow at room temperatures, and in culture on solid media loses its virulence in five to ten days.

This explains to some extent why pneumonia ends by crisis after a certain number of days, and the more violent the infection the sooner the defervescence. The violence of the infection as shown by the muscular weakness and nervous depression is not identical with a less violent infection involving a larger amount of lung tissue as shown by the rapid breathing, consolidation and the increased pulmonary heart sounds.

The pneumococcus is both aerobic and anaerobic and may be stained with any aniline color. It varies greatly in virulence; by passing it through repeated cultures its virulence is reduced but can be restored by passing it through an animal inoculation. The saprophytic form found in the mouth is very slightly virulent.

Foreign bodies, sputum or blood during anesthesia or coma, may carry the germs into the lungs and set up pneumonia. The sputum of pneumonic patients is virulent and retains its virulence a long time if dried. It should be disposed of with the same care that is given tubercular sputum.

Schroeder mentions a house in which thirty-two cases occurred in the course of a few years. Emmerich reports 161 cases of pneumonia with 46 deaths in a prison in the dust under the floor of which he found the diplococcus and inoculating animals with it producing pneumonia. After disinfection of premises no more cases developed. Males, in consequence of exposed and exhausting occupations and intemperance, are more frequently attacked than females, in the proportion of 3 to 1.

One attack predisposes to another. Pneumonia often occurs in the course of, or after other diseases, as the exanthemata, typhoid fever, whooping-cough, etc. In 98 per cent. of cases the micrococcus lanceolatus or pneumococcus is found either alone or associated with other germs. It can be cultivated outside of the body, and if injected into the lungs produces pneumonia, fulfilling Koch's law.

PATHOLOGY.

Pneumonia has been divided into four stages:

First—The stage of congestion. The diseased lung is edematous and swollen, the blood-vessels are distended, and contain an increased proportion of leucocytes. The epithelium is swollen and granulated. This is followed after one or two days by the second or stage of red hepatization. The air-vesicles and smaller bronchial tubes are filled with blood-fibrin, epithelial-cells, and pus. The lung is swollen, dark red in color, sinks in water, and the cut surface is dry, red and granular. After from five to eleven days this is succeeded by the third or stage of dry hepatization; there is less congestion; the contents of the air vesicles undergo granular and fatty degeneration; the pus and epithelial cells increase; the cut surface is either dry or moist; the color is at first mottled red and gray and then gray.

In the fourth, or stage of resolution, the fibrin is absorbed, the pus and epithelial cells undergo granular and fatty degeneration, and by expectoration and absorption the air-vesicles are emptied, air once more enters, and the lung returns to its normal condition.

At times the lung does not return to the normal, but the contents of the cells become organized and the vesicle remains permanently closed, abscess or tubercular inflammation may develop. Sometimes there is thrombosis of the radicles of the pulmonary artery. The weak right ventricle is not powerful enough to force the thick non-oxygenated blood through the swollen lung. The nutrient arteries, which come from the aorta through the bronchial arteries prevent coagulation, necrosis, infarctions, and gangrene. At times the intercellular tissue is infiltrated with fibrin pus and new connective tissue and remain permanently thickened; this usually denotes a mixed infection.

SYMPTOMS.

The first symptom is a severe chill, accompanied by a pain in the chest. Sometimes the chill is slight or wanting and in children is frequently replaced by convulsions. The pain may be slight or absent, but usually is severe. It is frequently in the mammary region, but may occur anywhere over the affected lung, or even in the shoulder or abdomen. It becomes less severe after a few days.

When only the central portion of the lung is affected and the pleura not involved, the pain is absent or slight. The temperature rises in a few hours to 102° to 105° and remains with slight diurnal variations until the crisis, and falls either suddenly by crisis or more slowly by lysis, often reaching 96° or 97°

In fatal cases the temperature becomes very high just before dissolution, 106° and 109° F. being recorded; but high temperatures are not necessarily fatal. The cough varies in amount; at first is suppressed on account of the pain, afterward it is easier and looser; but frequently it is most troublesome, preventing sleep and rest.

The expectoration at first is slight and frothy; then mixed with streaks of blood of a bright red color. Later it is thick mucous pus, streaked or mixed with blood of a rusty or pink color.

The expectoration may be slight or abundant; is adhesive, and has a vitreous, shiny appearance. In bad cases it becomes thinner, resembling prune juice.

The respirations are rapid and shallow during the first few days, expiration is delayed and then given with a grunting sound. The normal ratio of 4 to 1 between the pulse and respiration is destroyed, and 3 to 1 or 2 to 1 may be found, the respiration reaching 30, 40, 50, or 60 per minute. The rapidity of the respiration is due to the fever, the toxemia, the pain, and later by the lessened lung capacity.

At the crisis the respirations fall in frequency, but still remain rapid as compared with the pulse and temperature.

The dyspnea is either apparent, due to the pain, or real, due to loss of lung capacity and the toxemia. In severe cases there is often a groan with each expiration.

The pulse at first is full and strong, ranging from 90 to 110 per minute; later it becomes more rapid, 120 to 140, and in fatal cases 150 to 170, or so faint that it cannot be counted. After the crisis it often falls to between 40 and 50; this slow pulse being much more favorable than when the pulse remains rapid after the temperature falls.

The skin is hot and dry, with a bright red spot on one or both cheeks, which is more marked in consequence of the pallor; if oxygenation of the blood is not sufficient the skin becomes cyanotic and dusky, the lips and nails blue, and the veins distended.

The urine is scanty and high-colored; the urea is increased. After the third day of the disease the chlorides are diminished or absent, due to the large amount of chlorides in the exudation. When the exudation is absorbed the chlorides again appear in large amounts in the urine, and the urine becomes alkaline for one or two days.

The presence of albumin, blood, pus, casts, and diplococci in urine is an unfavorable symptom.

The tongue is heavily coated, white or brown; later it becomes dry and parched.

The posture is on the back or inclined to the affected side to allow the healthy side free motion. The blood shows a marked increase in amount of fibrin and the white cells, usually in proportion to the height of the fever. The amount of leucocytosis is of valuable prognostic importance, since the leucocytes either act as scavengers or are instruments in developing an antitoxin; consequently we find that apparently severe cases with leucocytosis recover unless some severe complication exists, while cases of less apparent gravity, but without leucocytosis, die.

During the pyrexia the polynuclear cells are abundant and the eosinophiles rare, but after the crisis the former decrease and the latter increase. Of 101 cases with 37 deaths, all cases with less than 14,000 per centimeter died, some of them otherwise mild cases; while severe cases with the leucocytosis recovered.

In counting the white blood corpuscles, the temperature must be taken into account. The normal being 9000, we should expect an additional 3000 for each degree of temperature. So with a temperature of 104° F. we would expect 25,000, and less than the expected amount is unfavorable.

Early in the disease nervous patients suffer from transient delirium; later, when the whole system is saturated with the toxin, carbon dioxide and the products of incomplete metabolism, a low, muttering delirium adds to the already gloomy outlook. Aged patients, alcoholics, patients with apex pneumonia and those with high temperatures are liable to delirium. Besides this, the diplococcus sometimes reaches the brain and a meningitis develops. The patient frequently, after a few days of sleeplessness and restlessness, falls asleep about the time of the crisis, completely tired out, and sleeps for five or eight hours, and awakes with the temperature down and improved in every symptom.

Death may occur from the virulence of the injection and extreme prostration. Others die from paralysis of the right ventricle, due to the extreme distention after the vain attempt to pump the blood through the unobstructed lung. The patient may die of asphyxia; others die of exhaustion, or from some complication, as heart-clot, apoplexy, gangrene of the lung.

The crisis is produced by: First.—The formation of an antitoxin in the blood, which neutralizes the toxin and for a short period renders the patient immune. Second.—After growing in the fibrinous culture medium found in the lung for a number of days and obtaining no serum upon which to grow, the pneumococci lose their virility and the temperature drops. Third.—The sodium bicarbonate in the blood at all times is acted upon in the lungs by pneumic acid, setting free carbon dioxide.

In pneumonia the circulation is impeded, the air vesicles contain no air, pneumic acid does not unite with the soda, but remains in a free state, and after a few days gives the lung an acid reaction, and the pneumococcus lanceolatus will not grow in an acid culture medium. Pus also prevents the growth of the pneumococcus. Pinna injected turpentine into the subcutaneous tissue of rabbits, and the resulting sterile pus injected into rabbits prevented infection when they were inoculated with the pneumococcus lanceolatus.

PHYSICAL SIGNS.

In most cases a few hours after the chill crepitant râles may be heard toward the end of inspiration over a portion of lung which is about to be invaded. The signs of consolidation are: (1) bronchial breathing, a loud blowing sound produced by currents of air in the bronchial tubes conveyed by the solidified lung to the ear with such distinctness that it seems to be produced immediately under the ear. It may be masked by a layer of fluid or air between the consolidation and the ear. Since the affected part of the lung is rendered useless, the remaining portions must do more work and consequently the vesicular sounds in the healthy lung are exaggerated and puerile. (2) The voice sounds are also modified by being transmitted through the solidified lung. They are loud, hoarse, and metallic; this is called bronchophony, and since the voice seems to proceed from the chest just under the ear pectoriloquy. (3) The whispered voice is also transmitted, and I wish to emphasize this, because it is usually not employed. The spoken voice is so loud and the fremitus so great that a much larger space will appear to be affected than really is the case. The whispered voice, however, is heard faintly or not at all through the healthy lung, but over the consolidated lung it is exaggerated and seems to have been whispered in your ear. (4) Vocal fremitus is increased. (5) Percussion shows dulness or increased resistance.

During resolution the subcrepitant râle is heard preceding the fall in temperature. The lung now becomes more resonant, the signs of consolidation disappear, and the lung returns to its normal condition.

DIAGNOSIS.

The sudden chill, the fever, the pain, the crepitant râles with a suppressed cough, anxious expression, pale face, with bright, red spots in the cheeks, the frothy expectorations streaked with blood soon becoming thick mucopus, rusty yellow or greenish yellow, viscid, glassy sputum. At a later stage the signs of consolidation: bronchophony, pectoriloquy, bronchial breathing, exaggerated whispering, vocal fremitus, dulness on percussion, increased resistance. The reduced ratio between the heart-beat and the respiration, the incessant cough and the pneumococcus in the sputum, make a case history hard to misunderstand.

The pain of pneumonia is due to involvement of the pleura, which is inflamed, thickened, and covered with velvety exudate. If the amount of fluid does not separate the two layers they soon become adherent. The effused serum varies in amount and is composed of serum, fibrin, blood, pus, and endothelial cells.

When the pneumococcus finds its way into the pleural cavity the fluid gradually becomes purulent. While pneumonia is much more frequent on the right side, empyema is most frequent on the left side. There is always more or less bronchitis with pneumonia.

When the pericardium is inflamed, we hear a friction sound synchronous with the heart beat, and later when effusion occurs the friction sound vanishes and there is flatness over an enlarged area, wider below than above, with indistinct heart sounds, but often a wavy motion of the chest, with marked dyspnea and rapid heart-beat. If the pneumococci have gained access to the pericardium the pericardial fluid is purulent. At times the pneumococci may be found in the blood with foci of infection in various organs as nephritis with albuminuria, casts, and scanty urine containing pneumococcus, acute endocarditis with vegetations or malignant ulcerative endocarditis, parotiditis, otitis media, thrombosis, meningitis. Pneumonia frequently develops in the course of other diseases, and is more frequently overlooked in this case than when it is idiopathic.

Any condition or complication which lowers the vitality or limits the lung capacity increases the danger of pneumonia. The mortality is larger in women than in men. The extremes of life increase the risk. In the spring and summer the mortality is light. The severity of the chill has prognostic value as showing the extent and intensity of the infection and the consequent nervous depression. The extent of lung tissue involved influences the prognosis. The right lung, being larger, has a more grave prognosis than the left. Rapid pulse as compared with temperature and respiration is an unfavorable symptom; while a pulse with corresponding high temperature is more favorable. Rapid respiration with high temperature is less unfavorable than respiration without high temperature. Temperature above 105° F. is dangerous, and yet cases attended with high fever are as a rule of shorter duration and end by crisis. The over-distention of the pulmonary artery and the recoil against the semilunar valves give a sharp, high-pitched second sound of the heart heard over the second left intercostal space; but if the right side of heart becomes feeble or dilated there is less blood forced into the pulmonary artery, and the ensuing feeble pulmonary sound is a sign of approaching dissolution. While a gradual lessening after the crisis is proof of resolution. Thus the pulmonary valve tells us the condition of the right ventricle and pulmonary obstruction, while the pulse tells the condition of the left ventricle.

The presence of leucocytosis is a favorable sign, and its absence or a lower amount than usual is unfavorable. The presence of the pneumococcus in the blood is a very grave symptom.

Cases of pneumonia due to mixed infection or to other germs than the pneumococcus follow erratic courses, depending upon the kind of germ causing the infection.

TREATMENT OF PNEUMONIA.

BY HERBERT F. WILLIAMS, M.D.

Read before the Medical Society of the County of Kings.

The treatment of pneumonia I deem of great importance, and I feel some hesitancy in attempting to present my ideas to listeners all of whom must have formulated their own, and who should have equal opportunity to express them. What I shall say, briefly as possible, may be elementary and presented as if to an audience which needed instruction rather than one capable of imparting it; for the reason that, in the struggle for new and startling discovery, many of us have been allured away from the commonplace and are neglectful of the small matters that assume an importance far beyond their isolated power.

For convenience and brevity I shall divide my remarks into three sections, with such subdivisions as may be necessary. First, the ethical treatment, which may include not only the patient, but his family, friends, consultants, surroundings, and some of the conditions that seek to secure harmony and evenness as the case proceeds; second, the medicinal treatment, which will include the question of nutrition and stimulation; third, mechanical treatment or extraneous means, which may be advised to influence the disease.

After obtaining the general history of the attack we must determine the site of the pneumonic action, and discover as nearly as possible the form with which we are to deal, and if it be decided that we are in all probability to have a serious case, we are not only called upon to write our prescriptions or measure out our drugs, but, in my judgment, we must at once gain an accurate comprehension of the idiosyncrasies of our patient and his friends, and adopt measures which shall implant confidence and secure obedience in all subsequent emergencies. Some patients can be told that they have pneumonia, without prejudicing the case; to inform others will be a serious mistake, certainly until after the crisis has passed. A little information at this time is very effective in quieting impatient restlessness. I have rarely found it necessary to withhold the knowledge of the existence of a pneumonia, from both patient and the nearest relative, such as husband and wife, or mother and son, or daughter, for any considerable time; but frequently for such time as may have been necessary for me to have estimated the probable effect of information and to have gained proper control of every one associated in the case, so that cheerfulness of expression, buoyancy of spirit shall not be outweighed by anxiety, dolefulness, or doubt. At this juncture should come in the question of consultation, and the suggestion coming from the attendant at this time will not create apprehension on the part of the patient, will accustom him to subsequent visits of the consultant, if any be necessary, and will afford the opportunity for giving such assurance as may be possible to the anxious friends. Such a course as this, I believe, saved the life of a prominent citizen under my care during my early professional experience. He was seized with pneumonia at a time when the disease seemed unusually fatal. A man of his own age was lying dead from the disease in his home opposite. My patient was of nervous temperament, and of a physique that warranted a sharp expression of the disease. The burden of his mind was that he must not get pneumonia, for he knew it would kill him as it did Mr. So-and-so. I demanded an early consultation and named the man I wanted. The family suggested an old physician in whom they had confidence; so we all three met and agreed upon a course to pursue. Matters ran along until the seventh day, at which time the crisis was impending. At this time, too, came all the relatives, some from a distance. The aged father and mother, the knowing brothers and the faithful sisters, all demanded that I consult with the leading consultants of this city and New York; but I had secured the loyal wife in the early days of the disease. I said: "You may have the consultation his relatives want, but in my opinion the time for consultants has passed; no man or men, however able, can do more for him than he is doing for himself. He is conscious, and if he sees such a consultation as is demanded he will conclude that the young man who has been treating him wants to be let down easy; he will say, 'I have got pneumonia and I shall die.'" The wife agreed with me, taking good care to have the sick man guarded from intrusion. I left him at 2 P.M., with a pulse of 150, respirations 60, temperature 105½°, and said I could not be found for two hours. When I returned I found the crisis had passed. From this on matters ran smoothly for a few days, though the patient was at a loss to explain his prostration and the care and attention he received. Before many days he became dissatisfied and rebellious through ignorance of his true condition, and said he was growing weaker from being confined in bed; he proposed to get up and go out of doors. He was now informed of the nature of his illness, which, up to this time, had been generously withheld. The transformation was complete; confidence, obedience and thankfulness supplanted rebellion. The point which I seek to emphasize by this simple narrative came about in this way: He said to me: "Do you remember the day I was so sick?" I assured him I did. He said, "I almost gave up." Then I asked: "What if I had called some consultants from New York to see you at that time?" He replied, "It would have killed me," and he then repeated almost the identical words that I had used as an argument to assure his wife of the inexpediency of a consultation at that time. He was a type of a man we have all been called to treat, and while we may accept the fact that "knowledge is golden," here at least it might have been *fatal* folly to have been wise.

The late Dr. William Thayer of this city, and an old and honored member of this society, once related to me the advice he received when a young man from a consultant in a case of pneumonia. "Young man," he said, "your treatment of the patient is perfect, but you are managing the family very badly." I cannot dwell upon the measures that should be adopted to instil confidence and composure in the mind of the patient. Apprehension or too much assurance in the demeanor of the physician should be carefully balanced, while levity and loquacity should be tempered with dignity and caution. Frequent physical examinations are unnecessary unless the pulse or temperature indicate extension of the disease. A cheerful nurse, good ventilation, with a room capable of being flooded with sunshine and kept at an even temperature are essentials to be secured when possible.

Second: Medicinal treatment, including nutrition and stimulation.

It is conceded that an uncomplicated case of lobar pneumonia, especially of a lower lobe, will recover with or without, or probably in spite of the very worst treatment to which it may be subjected. The intrinsic tendency toward recovery in all acute diseases should never be forgotten, and this fact alone should cause us to be thoughtful in our claims for all measures, any one of which may at times seem to be appropriate and controlling. It is easier to keep out of a scrape than to get out of one, and I have learned by experience that in medicating pneumonia and all kindred diseases it is better to be gentle in remedies that are to be put into the circulation. While this suggestion may be receptive to those who would lightly discard all medication in pneumonia, it is not so intended, for I believe that such a state of feeling dulls our sense of discrimination and dwarfs our resources when it becomes necessary to be bold and daring in therapeutics.

At the inception of a pneumonia it is, of course, necessary that the alimentary canal be clear and if a cathartic be necessary one with hydragogue effect is better than one the action of which is on the lower bowel, and this should be selected and adjusted with entire reference to the individual case. The calomel and jalap of our fathers nicely dosed have never been superseded in efficiency, though of course the more elegant salines of to-day may answer the purpose.

At this time in sthenic pneumonia we have high arterial tension and aconite in proper dose and frequency is generally and should always be used. It is my custom to administer it thus, putting six (6) drops of a reliable tincture in eighteen (18) teaspoonfuls of water. I order a teaspoonful every half hour for five (5) doses, then every hour until arterial relaxation is sufficient. This is usually reached after ten (10) or fifteen (15) doses in all, alternating with this, and given in the same way, I order tr. of bryonia alba, although the adoption of bryonia as an agent in pulmonary diseases was incidental, I have learned to appreciate its utility without seeking authority to do so. I find that Phillips speaks of its use in pleurisy and pleuropneumonia as being valuable, and says that "it both limits effusion and promotes absorption." After the aconite is suspended, three grains of potassium iodide are dissolved in eighteen teaspoonfuls of water and a teaspoonful of this is given alternately with the bryonia every two hours, and this hourly alternation is continued during waking hours until resolution is well established. In some cases I have found it expedient to diminish the dose of iodide on account of browache, especially if given at hourly intervals. It is never found necessary to interrupt this continuous treatment, except by sleep, but should any agent be deemed necessary, its allied use need not interfere with the gentle and controlling influence of the two remedies thus administered. From the inception of the pneumonia up to the crisis the temperature may be expected to rise from three to six degrees, and while the temperature may be a measure of the severity of the condition it certainly is not necessarily so. It must be remembered that the process of pneumonia is one of the most marvelous exhibitions we are called upon to observe. How or why nature can summon her resources and guard the spark of life against the assault is a mystery. We must realize, however, that she cannot do it without loss of potential, the index of which is fever. To reduce this fever at further expense of potential must be wrong, still it can be done, and I fear has been too frequently done.

A few years ago Dr. Waterworth and myself labored all night to save the life of a young man whose physician had given fifteen grains of antifebrin in the early evening. With antifebrin I will class all its chemical and commercial associates. Temperature reduced by any one of them may be at a fearful price and, if my full suspicion is well grounded, the public sale of these agents should be prohibited. For among well-to-do classes it frequently happens that ten or fifteen grains of phenacetin, with perhaps as much quinin, have been taken before the physician has been called. Sudden heart failure, septic invasion of the thermal centers, vasomotor paralysis, may be the legitimate consequences of the pneumonic fight, but early depressants by whomever given become accessories to a fatal issue. The pain accompanying pneumonia may be no measure of its severity; in septic or central embolic pneumonia there is little if any. I am convinced that nearly all of the pain is seated in the pleuræ and can generally be relieved without the use of drugs., Opium and its products though sovereign should not be used until other measures fail. The causes that underlie the variation in the pulmonary process in different cases may not all be determined. Of course, vitiated constitution and concurrent disease will modify the measures that may be needed for each. For instance, resolution becomes delayed, or the pleuritis which always accompanies the onset starts up afresh and the plastic effusion either increases, or serum occurs and may become sacculated, and everything about the case is obscure. The patient, though not in imminent danger, is not getting better, and tuberculosis is threatened, or at least organized adhesions are forming to bind the lung in hopeless restriction. At such a time calomel in heroic doses of twenty, thirty, or even sixty grains, given once only, will produce an absorbent effect and, contrary to expectation, a sedative one, followed by rapid improvement. My attention was first called to this fact by the late Dr. James R. Leaming, than whom there was no better practitioner; and I would call attention to his work, "Diseases of the Chest," E. B. Treat & Co., for a more complete suggestion for the use of calomel in large doses for serious conditions. I think perhaps that I should speak of the fact that finely triturated calomel is more potent than the ordinary pulverized calomel which he probably used. He became so trained in the various endemics of pneumonia that in some cases he used this dose to forestall either fatal collapse during the acute progress of the disease, or worrying complication such as I have mentioned, and though he advised gentleness in medication in uncomplicated cases, would to Heaven the mantle of his strength could fall on all of us when danger calls for action!

NUTRITION AND STIMULATION.

The question of nutrition must be dismissed as briefly as possible for want of time. Food for stomach absorption should be given every three hours. Milk should be supplied in small quantities—be eaten, and not drunk. The best milk both for convenience and utility is the sterilized milk in siphon. Its utility is enhanced from the fact that the air pressure necessary to confine it in the siphon keeps it in a state of perfect emulsion, and the force with which it is ejected into a glass pulverizes and aerates it, and in this way it can be more easily pre-digested by the cold process if necessary. To my mind there is no finer opportunity for discrimination than in the use of stimulants. Many cases require no stimulation from beginning to end, and in nearly all it should be intelligently withheld until the acute process has abated or until there is evidence in the heart of lagging. I have seen dormant pneumonia lighted up by injudicious alcoholic stimulation; one case in particular serving to convince me that too early and too vigorous use of alcohol is a momentous error. The use of carbonate of ammonia in pneumonia I remember to have heard ably discussed in this society some years ago. While all that can be said in its favor may have force, its power to irritate the stomach and emulsify its food contents is so great that I have discarded it. The idea that when introduced in the blood hyperinosis is opposed and the danger of ante-mortem clot thereby reduced, if true, must be true of the aromatic preparation. Strychnia and digitalis are essential to hold a heart and are nicely given by mouth in alternation with alcohol as resolution approaches. Thus used they guard against nervous exhaustion and more severe collapse when hypodermic use might be imperative. Quinia, spartein, in small doses may be given as convalescence continues, or if the appetite fails any one of the bitter vegetable excitants may be of benefit.

Third: *Mechanical or extraneous measures.*

My time will allow me to speak briefly of some of the more common and important. Embrocations with or without anodynes. This custom is so respectable and venerable that it has become almost a universal domestic procedure before medical advice is sought. I would not wholly discard the practice, for it is soothing to the terminal nerves and relaxing to the muscles in the early pain. Continued poulticing I believe devitalizes subjacent structures and not only enhances the chances of taking fresh congestion at the time of changing the poultice but during convalescence. A high degree of heat applied about and above a delayed consolidated area may promote absorption by expanding residual air, thus increasing its hygrometric power. Sinapisms early applied I believe to be safer than poultices, and I can conceive a time when they may even abort a pneumonia by their sharp counter-irritating effect.

Cotton batting with oil silk covering is a safe precaution where the temperature cannot be regulated or where a patient may be fractious. This covering is disquieting to sensitive people. The greatest disadvantage, however, is that physical signs cannot be easily detected through the covering without producing too much disturbance or exposure. Excessive fever can be reduced by cold sponging or by covering the superficial arteries with cold compresses, and by ice bags over the heart. The effect thus gained will be as permanent as that produced by the cardiac depressants and can be maintained or repeated not only without danger but with positive assistance to the heart.

Of all the means thus far discussed there remain two, which to my mind and experience outweigh them all in usefulness. I refer to venesection and wet cupping. Scarcely more than a generation marks the time when venesection was almost universally adopted not only in pneumonia but in most of the acute diseases. While there may not have been justification for such indiscriminate practice, it must be remembered that physical diagnosis at that time had not reached the perfection of to-day, and the question of diagnosis aside, I would prefer my pneumonia patients to submit to this treatment than to have them struck down by the coal-tar derivatives. General venesection when applied to the proper condition is the most potent means to relieve an overburdened heart that can be adopted.

The late Dr. B. F. Westbrook, in a paper read before this society, described this condition, and though his pathology and diagnosis were correct, his therapeutics was daring and unnecessary. He suggested the advisability of aspirating the right auricle, and reported a case upon which he operated in this way: given a case where the surcharged blood is pouring its exudation into the alveoli and air-cells, the heart pounding away in its association in the inflammatory process soon begins to feel the back pressure and the right ventricle becomes distended and oppressed; cyanosis, cardiac pain, hurried respiration, anxiety, and restlessness all mark the approaching exhaustion. There is one procedure, and one alone, that will almost immediately relieve this condition, and that is the withdrawal of ten or fifteen ounces of blood from the general circulation; the quantity being best determined by the appearance of arterial color, when the bleeding should be suspended. The over-burdened heart is relieved, the blood is robbed of an essential quantity of exudative product, and the pneumonic process thereby limited. A few inspirations of oxygen during this time may serve to depurate the blood, for at this time the harmony between the aerating surface of the remaining healthy lung and the blood has been disturbed, and sufficient time for a readjustment of this harmony cannot well be afforded. Here, if at all, oxygen *per se* will afford relief. Such an extreme emergency as I have described is most likely to occur in the robust and well-to-do, whose fund of health seems contributory to the intensity of their pneumonia. In all lesser pneumonias we are confronted with the question of their probable course. A good deal can be predicted upon the character of current endemics. The site of a pneumonia may determine its probable length and severity. Primary inflammation in superior lobes being specially treacherous; still there is no way to determine the course of a simple pneumonia, and I do not propose to take any chances. As soon as I can determine the site, whether guided by the location of the pain or by physical signs alone, I apply from one to several wet cups over and about the seat of inflammation. The result of such application is the almost immediate relief of pain, even before the cups are removed, and the change in the physical signs is equally satisfactory. I have seen bronchial respiration reduced to bronchovesicular; in fact, this is the usual result. Subsequent cupping will depend entirely upon the permanency of relief, and in my experience it is rarely necessary. Dry cupping will not do as well. This is little if any better than sinapisms. The relief and improvement is so pronounced that I have sought an explanation, and although I may not be able to trace the chain of events that conspire to produce such a speedy relief, I think the reason can be found in the association between the pleural and cutaneous nerves.

John Hilton taught "that the same trunks of nerves, the branches of which supply the groups of muscles moving any joint, furnish also a distribution of nerves to the skin over the same muscles and their assertions, and that the interior of the joint receives its nerves from the same source."

Again, "the same intercostal nerves which supply the intercostal muscles moving the ribs, supply also the serous membrane lining the thoracic parietes and the skin over those different but physiologically associated structures, in order to produce harmonious and concerted action during the varied states of respiration."

Reasoning from such an anatomical provision, we can conclude that in wet cupping the skin over the inflamed area, we are practically acting directly upon the circulatory and nervous distribution of the viscera. This local exsanguination of the pleural and intercostal nerves obliterates the pain, and in consequence a full inspiration is permitted and the bronchial respiration becomes vesicular. The pneumonic process is interrupted and markedly modified. Recognizing the approximate truth of this reasoning, I adopt this method to reduce the intercurrent congestions in tubercular progress and in the lobular infiltration of catarrhal pneumonia. The salutary effect of rubefacients, counter-irritants and emollients can be explained by this nervous association.

I should speak of one more procedure which perhaps could come more gracefully from another. I refer to the use of the pneumatic cabinet in unresolved pneumonia and the tardy absorption of the pleural exudates. Evidence of its exceeding usefulness does not rest upon my assertion alone, but if it did, it is a fact, nevertheless.

A FORM OF SERUM TREATMENT OF PNEUMONIA.

BY CARL E. ELFSTROM, M.D.

Read before the Medical Society of the County of Kings.

This serum treatment is based on researches made by C. and F. Klemperer. These gentlemen published, in 1891, a memoir relating to the pathogenic action of micrococcus pneumoniæ crouposæ. "They succeeded in conferring immunity upon susceptible animals by inoculating them with filtered cultures of the micrococcus, and in some instances this immunity had a duration of six months. A curious fact developed in their researches was that the potency of the substance contained in the filtered cultures was increased by subjecting these to a temperature of 41° to 42° C. for three or four days, or to a higher temperature (60° C.) for an hour or two. When injected into a vein after being subjected to such a temperature immunity was complete at the end of three or four days; but the same material not so heated required larger doses and a considerably longer time (fourteen days) to confer immunity upon a susceptible animal. The unwarmed material caused a considerable elevation of temperature, lasting for some days. The authors mentioned conclude from their investigations that the toxic substance present in cultures of micrococcus pneumoniæ crouposæ is a proteid substance, which they propose to call pneumotoxin. The substance produced in the body of an immune animal as a result of protective inoculations, upon which the immunity of these animals depends, is also a proteid, which they call anti-pneumotoxin. This they isolated from the blood serum of immune animals. By experiments they were able to demonstrate that the blood-serum containing this protective proteid, when injected into other animals, rendered them immune; and also that it arrested the progress of the infectious malady induced by inoculating susceptible animals with virulent cultures of the micrococcus. When injected into the circulation of an infected animal its curative action was manifested by a considerable reduction of the body temperature."

As seen from the above the Klemperers injected the filtered cultures; that is to say, a toxin, or, as they call it, pneumotoxin, a proteid, into the circulation of the susceptible animal and obtained a considerable elevation of temperature lasting for some days and immunity in fourteen days. Coincident with the considerable elevation of temperature there has, then, been produced in the body of the animal a proteid, which they call antipneumotoxin, and which gives immunity. On the other side they heat the filtered culture—that is, the said proteid pneumotoxin, to 60° C. during two hours and find the following results: Injected into the animal no elevation of temperature takes place and, although a considerable smaller quantity of the material so treated is used, immunity is obtained as early as in three or four days.

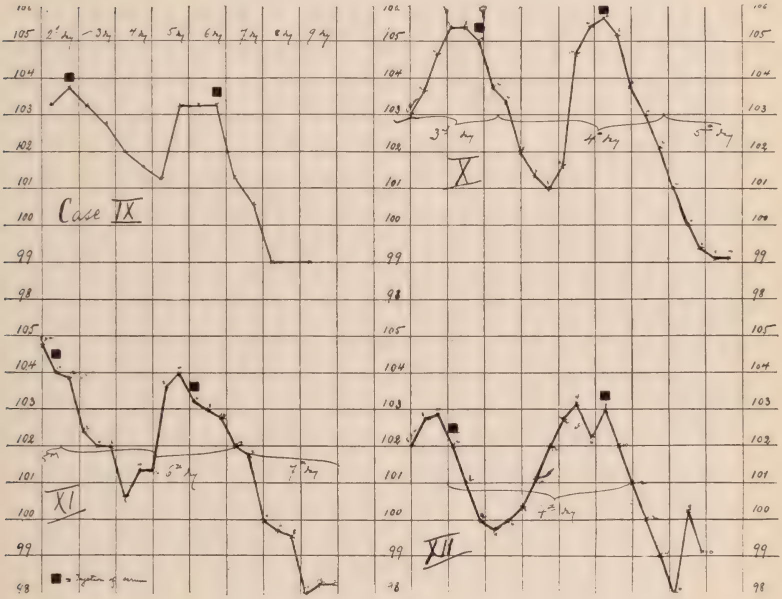
It must be admitted that, if this said proteid pneumotoxin exists in cultures of microccus pneumoniæ crouposæ, it also must be found in the blood circulation of an animal suffering from croupous pneumonia.

Heating of a certain quantity of blood from such an animal to 60° C. during one or two hours ought, therefore, to bring about a similar effect as a culture of micrococci treated in the same manner. This, as I thought, under supposition that the heated blood contained a sufficient quantity of that material which in the body becomes or helps to produce antipneumotoxin.

As I concluded this theory well worthy of practical experiments, I applied in my first case of croupous pneumonia two leeches, and in the following eight cases only one leech, on the forearm of the patients. After squeezing the blood out of the leeches I diluted it with three to five parts of normal salt solution. This mixture was poured in test-tubes and the tubes placed in a vessel of water. The water was maintained at a temperature of 60° C. during two hours. The mixture was then decanted and injected subcutaneously. Of the nine cases reported in the *New York Medical Journal,* two died. As these two cases *before* the injection showed unmistakable signs of meningitis, the injections were given solely for the purpose of ascertaining their action on the lungs. In my other cases, as I had opportunity for taking the temperature only twice in twenty-four hours at the best, I could only observe the following.

The temperature fell during the nearest few days to normal or nearly so. The patients had a quieter appearance; there was increased hyperemia in the affected parts of the lungs and often numerous mucous râles could be heard there. The patients seemed to be able to leave the sick-bed earlier than I could have expected them to do under ordinary treatment. Only one injection was administered in each case except in Case 9, where two were given.

I have said above that heating of a certain quantity of blood, taken from a case of croupous pneumonia, to 60° C. during one or two hours ought to produce an effect similar to that of a filtered culture of micrococci treated in the same manner, provided that the heated blood contains a sufficiency of that material *which in the body becomes or else assists in the production of antipneumotoxin.*



The above mentioned Case No. 9 induced me to suspect that the injections acted directly—that they contained the antipneumotoxin.

The three cases, Nos. X., XI., and XII., in Long Island College Hospital, show plainly that this suspicion was well founded.

To begin with Case 9 the chart gives the daily fore- and afternoon temperatures. After the first injection the fever declines in the course of three days from 103.8° to 101.2°. Then an incline takes place to 103.2°, which continues two days and necessitates a new injection. In the succeeding twenty-four hours the temperature has fallen to 100.6° and another twenty-four hours to nominally normal. All three cases at Long Island College Hospital exhibit the same reaction after each injection. The charts here show the temperature as taken every two hours.

Let us now return to the researches of the Klemperers. They told us that they had isolated from the blood of immune animals a proteid which they call antipneumotoxin. "By experiments they were able to demonstrate that the blood-serum containing this protective proteid, when injected into other animals, rendered them immune, and also that it arrested the progress of the infectious malady induced by inoculating susceptible animals with virulent cultures of the micrococcus. When injected into the circulation of an infected animal its curative action was manifested by a considerable reduction of the body temperature." We get here through injection of the heated blood the same considerable reduction of the body temperature and certainly a remarkable arrest of the disease in all of my cases with the exception of the cases with meningitis. This arrest of the disease is especially well marked in Case No. 9.

I will now proceed to the five cases numbered X., XI., XII., XIII. and XIV., in the hospitals in this city. The first case, No. X., in Long Island College Hospital, is quite remarkable. The temperature reacted promptly after the injections. The first injection was given in the evening of Dec. 13, on the second day of the disease, and the patient was out of bed on the 19th.

As this case, taken together with the cases in my own private practice, induced me to hope that the value of the treatment had in some degree been demonstrated, I decided to try some experiments for the possible improvement of the method. Instead of one leech, two were used each time, and the blood expressed from the leeches was diluted with only an equal quantity of the normal salt solution. Instead of decanting off the clear portion after the heating process the quite copious sediment was well stirred up with the serum, and the whole injected. The temperature reacted as we see promptly after the injections, but, instead of a speedy convalescence, the temperature rose and fell irregularly for many days, showing absorption of pus. In Case

No. XI. an abscess formed in the site of injection, and Case No. XII. developed a red swelling in one of the places of injection, which, however, gradually subsided. Case No. XI. was admitted to the hospital on the 4th of January, and was not well enough to be discharged until the 20th of February. The lungs were very tardy in clearing up. Case No. XII., a bilateral pneumonia, was admitted to the hospital on the 2d of January and discharged February 20th. The lungs in this case also were very slow in clearing up. The patients had, as we see, to suffer a long time from the injection of so large quantities of dead organic substances.

The thirteenth case was in St. John's Hospital. Patient was delirious and tied to the bed. It was peculiar that in this case the temperature sunk only a fraction of a degree after each injection. The patient died.

Therefore, when Case No. XIV. in Brooklyn Hospital was to be treated, it was decided to endeavor to eliminate the sediment more completely than through decanting. Two leeches were used. as before, and the blood diluted with an equal quantity of salt solution. After stirring, filtering through filter-paper was tried with negative result. Filtering was finally done through gauze Quite a large portion of the serum was lost in the process, however. Then injection. The reaction was disappointedly small. In preparing the blood for the second injection, centrifuging was tried, but it was impossible to separate the sediment, and in subsequent filtering through gauze a considerable part of the serum was again lost. The second injection was given with the same poor result as after the first. After the ordinary course of the disease the patient got well.

Why did not the method work in these last two cases? In the last case it was probably due to the fact that such large quantities of the serum were lost through the various experiments trying to separate the sediment from the serum. But in Case No. XIII., who died, the patient received both injections in full strength. Only in my own two cases of meningitis did I meet with anything similar. The patient in question was certainly delirious, but the pupils reacted to light. An autopsy could, however, not be procured. To explain the phenomenon theoretically is impossible; only repeated experiments on sick persons will explain the cause.

The method is, therefore, at the present time the same as when it was first experimented with in the hospitals. That is: a leech is applied on the patient's forearm. The leech is thereafter emptied of the blood and this is diluted with four or five parts of normal salt solution and heated to a temperature of 60° C. for two hours. It is then decanted and injected subcutaneously in the pectoral region. A syringe holding about 15 c.c. is utilized. A second injection is prepared in the same manner and injected within twenty-four hours after the first.

Strangely enough, the quantity of the treated blood does not seem to have any deciding effect, as the results seem to me to be the same, whether one or two leeches are used. The experiments indicate, however, that the effect of the injections seems increased the later in the run of the disease the blood has been taken. Whether this depends on the possibility that the blood becomes daily richer in toxins as the illness continues, or on some chemical reaction in the body acting on the toxins, will be answered only by continued experiments which I hope will be done.

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BRIEF NOTES ON PNEUMONIA AS TREATED BY CREOSOTAL.

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Read before the Medical Society of the County of Kings.

Late in October last my interest in pneumonia and its treatment was excited by watching a patient in the Naval Hospital, who for twelve days suffered from pneumonia in its asthenic form. Toxemia produced symptoms out of all proportion to the extent of lung involved.

The right lower lobe was solid, the temperature ranged for days between 105° and 106°, and the patient finally recovered. His respirations ranged between 86 and 96 per minute. He simply lay in bed panting. His case certainly looked hopeless. Nourishment, strychnia, whisky, and oxygen were the remedies employed, and they kept the machine going, but gave him little relief.

About this time the synopsis of Dr. A. H. Smith's most valuable paper on pneumonia was brought to my notice, and I heard that most instructive paper read before the Academy of Medicine, and was greatly interested in the discussion which followed. His pathology of pneumonia is familiar to you all, no doubt. The treatment by creosotal may also be well known to you. It seemed a most reasonable plan of treatment, and well adapted to the pneumonias we see in the navy in young adults, early in the disease. I have employed it in seven cases with excellent results. It is used here in conjunction with other treatment, such as strychnia, to tone up the heart; nitroglycerine, when venous engorgement is present; digitalis, with a vaso-dilator for cardiac irregularity, alcohol, etc.

A brief note of one or two cases will give a good idea of how the cases ran under this treatment.

S. T. A., colored, æt. 30 years; admitted on third day; temperature 104.2°; hurried respirations, bloody sputum; right lower lobe involved. Creosote carbonate ♏ XII. was given every two hours. The temperature fell to the normal, by lysis, on the seventh day.

R. C. A., white, æt. 25 years, had a heavy chill on December 25th, in the evening, with sharp pain in the right side. He was sent to the hospital next morning, when the signs of beginning pneumonia were found in the lower lobe of the right lung. He was anxious, face flushed, and temperature 104°, and was typically pneumonic in appearance. His sputum was sticky and blood tinged. Under creosotal ♏ XII. in capsules every two hours the temperature fell to the normal in thirty-six hours. This case was ideal for the treatment employed, as it was seen so early in the attack.

The other cases, except the seventh, were typical and responded promptly.

The seventh case was that of a lady 74 years of age.

After three or four days of "grippy" symptoms the patient had a heavy chill, sharp pain in the left side, and vomiting. Creosotal ♏ XII. every three hours was given. In forty hours the temperature, which had been 103°, dropped to the normal. Shortly afterwards the patient had a second chill, the pulse became weak, irregular and intermittent, and the temperature shot up to 104°. The patient's condition appeared very unfavorable. An examination showed a massive pneumonia involving the right lower lobe in addition to the lesion already noted.

Creosotal was persisted in, in conjunction with the usual remedies mentioned above. Two days after the second invasion the temperature fell to about 100° F. The urine was smoky during treatment, but this is due to a chemical change, and not disintegrated red blood cells, as was once supposed. Convalescence was prolonged, but the patient passed the danger point early. The treatment does not seem to disorder the stomach. Early treatment offers the most satisfactory results.

DISCUSSION.

Henry P. de Forest: Mr. President and Gentlemen—I was in hopes that some other speaker would bring out more in detail the work that has been done in the treatment of pneumonia by means of the various forms of toxin and antitoxin, but before I begin to speak of that particular branch of the subject I would like to refer briefly to one or two topics that have already been touched upon.

Dr. Clayland emphasized what recent work upon the blood has shown to be quite true, that it is possible for any of us to form a fair opinion as to the cases of lobar pneumonia—and when we speak of pneumonia I believe we should confine our remarks to that—that we can by the examination of the blood determine with considerable accuracy whether or not the patient is going to recover. The technique is extremely simple and any one who possesses a microscope should be able to carry out this examination without difficulty. All that is needed is a couple of glass slides. The finger is cleaned and pricked, and then as the drop of blood exudes, the edge of one slide is drawn across the drop of blood so that it forms a thin streak of blood across the edge of the glass; then drawing this first slide transversely across the other without pressure will give a very thin smear of blood. This smear is allowed to dry in the air, put for a few minutes in equal parts of absolute alcohol and ether and then stained with a drop of methyl blue.

Now, under the microscope with an ordinary lense of ⅛ or ⅕ we ordinarily see in the field one or two leucocytes. If instead of the one or two which are seen in the field with the ordinary microscope—and the number can be readily tested by examining a drop of normal blood with the microscope to be used—if we find, instead of one or two, ten or twelve, we can conclude that the leucocytosis is marked, and if the number is still higher it is very well marked, and then the opinion advanced by Dr. Clayland can very easily be substantiated and a rather accurate view as to the prognosis can be made. The greater the number of leucocytes the better the chances of recovery.

It is to be remembered that the invasion of other parts of the body by the pneumococcus is not at all unusual. A book has been written on the medical complications of typhoid fever from the invasion of parts of the body other than the intestines by the bacillus of typhoid fever. The time will come when a similar contribution will be made upon the invasion of other parts by the pneumococcus.

But recently I had occasion to make an autopsy upon a child which had presented before death all of the symptoms of a meningitis pure and simple; a diagnosis of cerebrospinal meningitis had been made; the question of pneumonia had hardly been thought of, because the brain symptoms had been so prominent that meningitis was apparently the only legitimate conclusion. Examination showed, however, that the real primary lesion was a double lobar pneumonia, and that the brain was involved by reason of a simple serous exudate so extreme as to mask the symptoms of pneumonia; here as in other cases the autopsy made clear the diagnosis. The serum was examined by Dr. Ezra Wilson, and was negative; the pneumococcus was not found. Whether that was because it remained in the tissues and not in the exuded lymph I do not know, but such was the result.

The work that was done some years ago by Dr. Sternberg was followed in a few years by some work in certain German laboratories, and the results have been published from time to time. The first article of any note was published by the two Klemperers in 1891, in the *Wiener Medizinische Wochenschrift.* This summary of the serum work upon pneumonia is so good that I have made an abstract of it.

"The advance in bacteriology during the past year has shown that in many cases it is possible to render the animal body immune against certain infectious diseases by the use of the products of infection obtained from previous cases. However this immunity may be explained, one thing is certain: it stands in close relationship to the cure of the disease, and we may safely conclude that it is possible to cure infection by the use of products occurring as a result of infection in another animal organism. Whatever theory we may adopt as to the exact nature of immunization, the condition itself is one that renders the system able to combat successfully the further advance and results of diseased processes. If it were possible to render the diseased body immune in a very short space of time, this rapid immunization would really be the cure of the disease. If, then, to be immune is to have the cure already in the system, such cure by inoculation can be regarded as immunization at the right time."

There is but one disease due to infection, the micro-organism of which is known, that is pathogenic for animals as well as for man. This disease is pneumonia. It is an infectious disease that is especially apt to attack rabbits. The symptoms are well marked in these animals, last from three to five days, and then within a few hours the appearance of the disease instantly changes. The crisis occurs, the temperature decreases, the pulse becomes normal, and the patient is himself again. The cocci are not dead; they have not lost their power to cause disease. Days and even weeks after the attack has passed they may be found in the sputum and may be used to infect other animals. Mere change in the bacteria does not explain the crisis in the disease. The culture medium itself, namely, the body of the host, must have changed.

In the production of immunity and cure, two steps are necessary: first, to render animals immune against the pneumococci, cure already infected animals and carefully work out the methods by which this can be accomplished. Second, to determine the exact analogy which exists between these animals and man. Various methods have been adopted: first, by the use of the dried spleen; second, the pleural exudate containing pneumococci; third, the sputum of pneumonia patients just after the crisis; fourth, sputum before the crisis. These various substances used to inoculate will produce immunity, as can be shown by using control animals. The duration of the immunity varies with different conditions; it is in some cases *inherited*. In general, every culture medium in which the pneumococcus will grow will cause immunity provided the cocci are themselves removed. This action is hastened or increased if the culture medium, either with or without bacteria, is heated for a considerable time (as referred to by the last speaker). The temperature must not be above 60 or 65° C. for one or two hours, or a temperature of 40° from three to four days. In all cases a certain time elapses between the exhibition of the immunizing material and the establishment of immunity. In intravenous injection the average is three days; in subcutaneous injection the average is fourteen days. Cure was affected by the use of the blood serum of immune animals withdrawn under septic precautions and injected directly into the circulation. This serum also sufficed to immunize, and serum from this immunized animal in turn cured attacks in other animals. The conclusions reached are that this serum has the power to render harmless the poisonous ptomaine which the cocci generate, and when once the poisonous effects of these are lost the system is easily able to destroy the cocci themselves. The presence of the poisonous neutralizing agent within the circulation renders the animal immune against the ptomaine of the pneumococci, and the white cells of the blood then destroy the cocci themselves.

This ptomaine, as has been said, is called pneumotoxin, and it is a tox-albumen product of the pneumococcus. The serum containing it is obtained by killing immune animals and transferring the muscles, kidneys, spleen, heart and lungs as bloody as possible to a vessels containing distilled water, and subjecting this mixture, after the solid matter has been finely chopped up, to pressure. This product is strained and filtered through a Chamberlin filter. That is a rather important step in the technique, as it insures a uniform and clear fluid and renders less likely the production of abscesses.

A summary of the results of experiments thus far made is that the pneumococcus forms a poisonous albumen—pneumotoxin. After the transferrence of this substance into the animal organism, fever occurs and in the course of a few days another substance is developed, called antipneumotoxin, that possesses the power of neutralizing the poison of the pneumococcus. When these facts are applied to human pathology the results, as shown by a series of experiments, are very satisfactory indeed.

A number of cases of men have been treated in this manner, and the percentage of recovery was extremely good. The trouble is that the animals available for this process, rabbits, furnish so small a quantity of serum that the price was made extremely high. It is only by the establishment of large organized bureaus where such material can be made and can be supplied to the profession, that we can hope to get the benefit which we can rightly expect. Such work must be properly carried out under careful and painstaking men. It is possible that certain of the larger animals may be used to give us a serum which will be equally beneficial, but such an institute has not yet been established. If we could utilize the horse, as is done in the case of diphtheria, there is no reason why we may not expect a similar beneficial result may be obtained with antipneumotoxin as has been obtained with the antitoxin of diphtheria. It is to be hoped that the result of this and of similar discussions and papers that have appeared from time to time—the work of Sternberg and the recent articles in the *New York Medical Journal*—that these discussions may lead some one to found such an institution where the curative serum can be produced in quantities sufficient for practical use, of a definite curative strength, and at a price which will enable practitioners of medicine to use it to cure pneumonia, one of the most fatal diseases to which mankind is subjected.

Dr. C. C. Henry: There is one question I want to ask Dr. Williams. I will first speak of cupping. It is a measure that has been used a good many years with a great deal of benefit. While I have never used wet cups in pneumonia, I have used the dry cup, which the doctor said had but very little more benefit than sinapism. I cannot agree with him in this. I have found it of marked advantage. I have seen cases of dyspnea, where the breathing was very difficult and labored, markedly relieved by the dry cups, and, too, before their removal. I have seen such results frequently.

The question I wish to ask is in reference to the temperature. He spoke of an even atmospheric temperature, but did not mention the temperature which should be a proper one for the patient. Some of the authors recommend a temperature of 68°. I think that ought to vary according to the sanitary conditions, ventilation, and the age of the individual; it may vary from 68° to 72°. I have seen cases do better with a temperature of 72° than with 68°; low vitality demands, I think, the higher temperature; outside air properly tempered should be freely admitted.

Dr. Williams: Seventy-two degrees is about the average temperature, and I agree with the doctor in reference to the individual necessity of some people. Older people perhaps require a little higher temperature than others, but 72° is about the average temperature.

Dr. Cohen: Does Dr. Williams think that oxygen a little before the crisis would do any good in cases which are more or less cyanotic?

Dr. Williams: I think that oxygen at any time perhaps may do good when the equilibrium between the carbon dioxide—the excess of carbon dioxide in the blood and the amount of aerating surface of the lungs is not sufficient. I think it will do good if there is that situation, but nature accommodates herself so quickly to this condition that after there is an equilibrium established, then I think oxygen is not as efficacious. I spoke of the time of a very sudden disturbance of the harmony of the condition between the carbon dioxide and the power to oxygenate the blood by the lungs. At such time oxygen will assist. Just before the crisis, if there is that lack of equilibrium, then I should say a little oxygen would do good, but you cannot make one utilize any more oxygen than the limit of saturation, and whether there be high or low circulation it remains the same, for nature adjusts this harmony except when there is rapid disturbance, and time cannot be afforded to wait for the equilibrium to be established.

Dr. W. F. Millington: In 1878, while resident physician at the Seamen's Retreat Hospital, Staten Island, I was very much impressed with the fearful fatality of pneumonia. Our treatment was carbonate of ammonia, whisky, and quinine, and our patients died. In making post-mortems I was much impressed with the similar appearance of the lungs of men who had died of alcoholism and the men who had died from pneumonia, and I asked myself the question, How can it be that alcohol, which congests the lungs as well as every other organ in the body, can be good for a condition where the lung is already over-congested? The theory was that we must keep up the strength of the patient, and to keep up the strength we must give stimulants. I believe fully one-half of the men who have died of pneumonia in the last twenty years have died from the effects of the stimulation treatment. We may not like to look at it in that way, but I think it is true. In my practice since leaving that hospital I have thrown aside all alcoholic stimulants and carbonate of ammonia, and I am well satisfied with the results. I believe in the treatment as outlined by Dr. Williams, and in addition I frequently use small doses of wine of ipecac. Having had pneumonia myself, I know by personal experience that poultices afford much comfort, and if rightly applied, congestion is relieved as much as by cupping. Proper nourishment, fresh air, and a mind at ease are of the utmost importance. If the heart grows weak, the best stimulant is the Da Costa formula—strophanthus, digitalis, nitroglycerine and belladonna.

I thank Dr. Williams for the liberal ideas advanced. If his mode of treatment were more frequently adopted and stimulants omitted a great many lives would be saved.

Dr. J. E. Walsh: I would like to hear some gentleman present who is conversant with cold applications in pneumonia. I came into practice fourteen years or so ago, just at the incipiency of the germ theory of disease, especially the pneumococcus for pneumonia, and we all applied warm applications and warm poultices. Within the last three years in well selected cases of pneumonia of the asthenic type in Connecticut and Massachusetts they have applied ice or other cold applications with more favorable results than the hot poultice.

In listening to these gentlemen here it reminded me of something I read in the *Medical Record* about a dozen years ago, of a young physician who was attending a gentleman in the suburbs of London who had pneumonia. They sent for Sir William McCormick, and in a state of fear and trembling the young physician said, when asked about the treatment, "Sir, I have given him only milk and whisky." Sir William replied, "Your treatment is correct, and I can offer nothing in the way of improvement." I agree with the alcohol treatment of pneumonia, that is from personal experience. What we know we know, and we do not need books to tell us what we know for facts. Different lines of treatment have different effects on different men, and the way the case is managed, and a great deal depends, as Dr. Williams said, on the idiosyncrasy of the patient and of the person to whom this treatment is to be applied.

Dr. Clayland gave us a very good picture, with which we are all familiar, of the symptomatology and the diagnosis and the prognosis of pneumonia, but when it comes to the etiology then we become more scientific, and I think the staphylococci and pneumococci and all the other different cocci very often serve as a balm for our ignorance, and we lay at the feet of these germs the consensus of symptoms that appear; and being asked why such and such is the case we lay it to the germ theory. I should like to hear the experience with cold applications.

Dr. R. S. Royce: Before we go to cold applications, I would mention a substitute for the poultice; I do not know but what it is absolutely familiar to all, but to me I have found the application of wool wadding which we can find in ordinary sheets three-quarters of a yard wide, really much more comfortable and more cleanly than the cotton wadding; it does not get wet and clammy, and it is warm and comfortable, and relieves pain in a good many cases.

Dr. Cohen: As regards cold applications, I had a little experience with my own child, a girl about two and a half years at the time. She had double pneumonia, and I had three ice-bags applied, one to the heart and one to each lung. Dr. McCorkle saw the case with me in consultation, and he did not give me very many hopes. The child suffered for about five weeks and fully recovered, and I ascribed a good deal to the application of the ice. I want also to say she was getting a lot of ammonia carbonate for five weeks; she had that mixture of ammonia carbonate about a grain to the dose, repeated one time after another for the whole length of the sickness; she had a severe attack, the temperature reaching 107° and staying there for a few hours until reduced by the cold applications. That was the highest temperature I have ever seen in a case of pneumonia.

The President (Dr. Fairbairn): How long did you keep the ice-bags on?

Dr. Cohen: When the temperature was reduced to 103° or 104° I took the ice-bags off—two or one, according to the decline of temperature.

Dr. Hoople: I have not had a great deal of experience in the treatment of pneumonia, and that dates some distance back, but I think I have had experience that is of some value in supporting the position taken by Dr. Williams in regard to the removal of blood from the circulation, not directly, but indirectly. I thoroughly believe that the practice is founded on good theory. The sthenic pulse which we have in many conditions of pneumonia ought to be relieved; it is a condition calling for treatment.

I remember reading some time ago a statement made by Dr. Fenwick of London in regard to the class of cases which he met in the city as compared with another class of cases which he met in a country place near Birmingham. He had been practicing in Birmingham and resorting to venesection always with success, and when he failed to do it his patients died. When he went to London he adopted the same practice and the patients invariably died when he used venesection and got well when he left it alone. He found a different kind of person to deal with in London from what he had in Birmingham; and I think that is the keynote of the treatment.

My method of dealing with the condition was this: Instead of producing depletion by venesection I made use of the emunctories to the highest possible degree. I gave a good purgative ordinarily, and then kept the skin pouring out its secretion profusely and the patients did well.

Dr. de Forest: Mr. President, it is a source of great satisfaction, after hearing that half of the patients who are given alcohol die, and one-third of the remainder die from the use of poultices, and not so many years ago there would have been those who said venesection certainly killed a large proportion of the remainder—it is a source of great satisfaction that any one ever lives after having pneumonia.

Dr. C. C. Henry: Could the normal salt solution used to dilute the serum have in itself effected the results observed by Dr. Elfstrom?

Dr. de Forest: There are few people who do not believe that the use of antitoxin in diphtheria is a valuable curative agent, but here we have 1500 to 2000 units, or whatever amount we choose to give, measured by a definite standard of strength. In those cases of pneumonia that have been treated by serum the number of cases has been so small and the number of observers so few and so scattered that at the present time there is no established standard of strength, and while in one case the serum might have contained a high amount of potency, in another, without any standard of comparison, the same amount of serum would not represent the same curative value. I do not believe at the present time we are in position to condemn or to extol the use of anti-pneumotoxin, except to recognize the fact that its production is a step in the right direction, and that the probabilities are that when the same care is exercised with this serum as with that for diphtheria we will get the same satisfactory results.

Dr. John A. Cochran: I have not tried the cold applications personally, but I know of two cases in the practice of another physician, both in children, where the ice-bags were not used, but towels were wrung out in ice-water and applied at frequent intervals to the chest, and so far as I could see the result was a good one; it seemed to shorten the disease, and both recovered. But modern experience in treatment has been to combat prejudice. The idea of a poultice or hot application is so firmly rooted in the mind of the laity that if a person dies with the ice-bag they will say you have killed the patient.

The results seemed good in the cases I saw.

PROCEEDINGS OF SOCIETIES.

THE BROOKLYN SOCIETY FOR NEUROLOGY.

The tenth anniversary meeting, the fifty-second regular meeting and the first meeting of this Society to be held in the sumptuour quarters provided by the County Society in their new building, was held on the evening of April 28, 1900, Dr. William Browning, president, in the chair.

It was the largest meeting in the history of the Society, and included among its guests Dr. F. W. Langdon of Cincinnati, O., and the Vice-President and Building Committee of the County Society.

Dr. Haynes first exhibited and discussed the cases of two brothers, aged respectively 14 and 12 years, who, since infancy, have shown marked weakness, extreme emaciation, loss of the deep reflexes with contractions, trophic changes and absolute loss of power so that one of them is unable even to roll over in bed. The three deceased children of the family died of neuropathic diseases; otherwise the family history is negative.

He discussed the diagnosis of the condition, under the head of "Friedrick's Ataxia with Marked Atrophy." The different forms of acute muscular degeneration, such as follows the acute infectious diseases of typhoid fever, influenza and scarlet fever, at times resembles neuritis. Then the more chronic cases of syphilis, all of which are secondary; then those due to specific infections and known as acute polymyositis and acute dermatomyositis and resembling trichinosis and multiple neuritis, and the so-called progressive ossifying myositis, of which are some of the cases reported as chronic spinal rigidity and rhizomyelia. He then differentiated arthritic, peripheral and central nerve forms of atrophy and, lastly, the so-called dystrophies, enumerating and excluding the different types known, as the Aran-Duchenne's or ordinary progressive muscular atrophy of adults; the pseudo?hypertrophic muscular paralysis; Erb's juvenile form, affecting the arms and thighs and not the forearms and legs; Leyden's hereditary form, affecting the back and lower extremities; the fascio-scapulo-humeral type of Landouzy-Dejerine; the peroneal type of Charcot-Marie-Tooth, and, lastly, mixed forms of these different types, without reaching a satisfactory diagnoses in these types. Finally, taking up the ultimate elements of the tissue involved in the diseased process, namely, the muscle spindle, peripheral nerve or neuro-axon and the ganglion cell or cell-body in the spinal cord and differentiating the results of a lesion affecting any one of these different elements, a conclusion was reached showing that these cases were due to a lesion affecting the ganglion cells of the anterior horn of gray matter in the spinal cord as being the only satisfactory way of explaining the pathology of these cases, such as has been described by Werdning, Hoffman and Bruce-Thompson under a heading of "A Family Form of Muscular Atrophy, with a Spinal Lesion." He briefly touched upon the etiology, pathology, prognosis, and treatment.

Dr. Brush in opening the discussion said the reader of the paper had covered the ground exhaustively, and with him he was in entire agreement. That the cases were due to disease of the cells in the anterior horns unless closer observation led to a more absolute conclusion. They differed from the ordinary form of progressive muscular atrophy of adults in the loss of the reflexes, absence of fibrillæ contractions and the different electrical reactions.

Dr. Langdon said he agreed with the reader. That these cases were more probably cases of *ad genesis* rather than degenerations, in other words, that these cases never possessed normal nerve and muscle tissue, as instanced also by their backwardness in learning to talk without atrophy of cerebral defect, showing condition of patients as a whole to be due to defective genesis, causing a lack of development of pyramidal tracts, which he believed can now be definitely determined by examining for Bagbinski's sign of the plantar reflex.

In closing the discussion, Dr. Haynes, in thanking the gentlemen for their agreement, said that he had based his diagnosis in excluding the different forms of muscular atrophy on the following points in the history of the cases, namely, the manner and early age of onset, there having been no hypertrophy, hands and neck involved, early loss of knee-jerks not marked, wringing of the scapula and the trophic disturbances: the loss of power and distortions resulting the same in all the various forms of atrophy.

By invitation Dr. F. W. Langdon of Cincinnati read the next paper on "Some Problems Concerning Nervous Diseases," prefacing the reading by the following remarks:

"Mr. President and Members of the Brooklyn Society for Neurology: My first privilege, and a most gratifying one it is, I assure you, is to extend to you my congratulations on the completion of this, your new home, with its commodious, effective and luxurious appointments. Such a structure is more than a monument to science, for monuments are best suited to the departed; this is an inspiration, which cannot fail to exert a potent influence for the growth of medical knowledge and the relief of the distressed.

"May the good work continue to grow and spread until the erection of such temples of our science and art throughout the land shall be one of the crowning achievements of the twentieth century!

"When I received the very complimentary letter of your distinguished President, inviting me to be with you and assist in commemorating this happy and momentous occasion, my sense of appreciation of the honor was only equalled by my profound realization of the difficulty of properly meeting its requirements.

"Knowing, however, as I do, the proverbial charity of the profession, and realizing, also, that something more than platitudes and felicitations is requisite to furnish food for scientific digestion, I will proceed at once to ask you to consider, with me, some of these clinical problems concerning nervous disease, which arise from our newer and better knowledge of the structure and functions of the nervous system within recent years."

The reading of the paper was followed by complimentary remarks from Drs. Onuf, Brush, the President and others, when the Society and their guests adjourned to the Union League Club house to partake of the bounty provided by the President.

W. H. Haynes,
Secretary.

THE LONG ISLAND MEDICAL SOCIETY.

Edward E. Cornwall, M.D., Editor.

The 94th regular meeting was held Tuesday evening, May 1, 1900.

The President, Dr. A. C. Brush, was in the chair.

The subject of the scientific discussion was *Cancer.*

Dr. H. T. Hotchkiss read a paper on the *Non-operative Treatment of Cancer,* of whose contents the following is a summary:

The term cancer is used in this paper as applying to all forms of new growth of known or suspected malignancy.

I. *Cases which are inoperable, or not fit subjects for Coley's method.* Treatment in these cases is directed solely to making the patient as comfortable as possible until death relieves him. These patients suffer greatly from restlessness, anxiety and depression, which are often increased by the solicitous inquiries of friends and relatives, and, as the new growth may be situated in any part of the body, it may interfere with the functions of important viscera or cause excruciating pain. The alleviation of the bodily and mental symptoms in cases of cancer will tax to the utmost the resources of the physician, but in no class of cases is the physician's visit more eagerly looked for or more highly appreciated. Kindly attention to little things and constant devising of something new and varied to give comparative comfort and ease appear to be the sum and substance of the treatment.

The treatment given in the two following cases will serve to illustrate the principles just laid down.

The first case, one of carcinoma uteri in a robust woman of sixty, presented the usual symptoms of foul discharge and bloody oozing. Antiseptic douches alleviated the annoyance of these symptoms, but the nervous symptoms, which were very pronounced in this case, could be alleviated only by frequent visits from the physician. Minute and repeated directions were given about diet, laxatives, ventilation and easy ways of moving the patient and making her bed. Arsenic was given as a tonic, and heroin, codein and morphin were given for pain and restlessness in small beginning, but large final doses.

The second case was one of general sarcoma, which began with an infection of an apparently harmless birthmark on the inner aspect of the right heel. This was first cauterized and later excised, but two months after the wound was perfectly healed over, lumps appeared in the thigh and breast, and later in many other parts of the body. This patient was under constant care for eight months before she died. Excessive vomiting from reflex irritation made the taking of sufficient nourishment very difficult, especially at first. Pain, which was not great, was relieved by mild opiates. The most distressing symptoms were due to pressure effects of the tumors. The edema of the legs was so great that the outer cuticle was destroyed and water continually oozed out through breaks in the skin. For relief of this a great variety of dressings was employed—wet dressings, dry dressings, salves, powders, antiseptic washes—of which the most satisfactory was the stearate of zinc covered lightly with gauze and bandaged with a part cotton and wool bandage, alternated with 5 per cent. ichthyol ointment to soak off the dry crusts of the first dressing. The abdominal distention was relieved by paracentesis, which brought but little fluid, but the opening remaining patent for a long time, a gradual but steady drainage continued until the distention was relieved, and then the opening closed. This patient slept in a Morris chair until the last week of her life, and pillows, cushions, and careful changes of position warded off bedsores until the last fortnight. During her illness she fell away in flesh from about 200 pounds to possibly less than 100 pounds.

2. *Post-operative Cases.*—The treatment in these cases differs but little in routine from that outlined above; the course is usually shorter and the local symptoms more offensive in these cases than in the others.

3. *Coley's Method of Treating Cancer by Injection of Mixed Toxins of the Streptococcus of Erysipelas and the Bacillus Prodigiosus.*—This treatment is carried out as follows. Beginning with one-half a minim of the mixed toxins, hypodermic injections are given daily with a daily increase of half a minim until a reactionary rise of temperature to 102° or 103° is produced with, perhaps, nausea and vomiting. This reaction should occur fifteen minutes after the injection and subside in about twelve hours. Cases which fail to show improvement after three weeks are not likely to be benefited by this treatment. The best results so far have been obtained in cases of spindle-celled sarcoma. Carcinoma is more resistant to this treatment than sarcoma.

DISCUSSION.

Dr. W. F. Campbell: Cancer (not sarcoma) is defined as a neoplasm caused by an atypical proliferation of epithelial cells. Of the two most noted theories of its etiology, *viz.,* that of Cohnheim and the microbic theory, the latter is the more probable. There are three stages in the development of cancer, *viz.:* local infection, regional infection, and general metastasis. In the first stage it is easily curable, in the second it is curable with more difficulty, and in the third it is incurable. In inoperable cases cocaine and opium are the most serviceable drugs. In these cases it is desirable to keep the surface free from ulceration as long as possible in order to avoid mixed infection. Also, in hopeless cases, operation is sometimes justifiable in order to make an open cancer subcuticular. No efficacious internal remedy for cancer has yet been discovered. Alcoholic injections around the base of surface cancer are said to have produced good results. Recent nodules in operation scars should be extirpated: a case operated on six times for recurrent nodules lived twenty-six years after the last operation.

Dr. E. Hodges quoted a case of cancer of the breast in which a thorough operation with extirpation of the glands in the axilla was followed by a general cancerous slough of the whole breast region.

Dr. Polak: Cancers of the uterus are operable only in the incipient stage and the next stage of local infiltration, without induration and extension to the broad ligaments and lymphatics. The diagnosis of the operable cases is difficult, and most cases that come to the surgeon for operation come too late. In cases on the border line pan-hysterectomy with the galvanocautery seems to give better results than the old method. Patients with cancer of the uterus do not stand anesthetics well, which may be due to the toxemia, or to the repeated hemorrhages. This has not been noticed in cases of cancer in other parts of the body. In the diagnosis of cancer from laceration of the cervix with erosion, a noteworthy point is the peculiar glazed appearance in cancer, and the raised, infiltrated border resembling somewhat the border of a Hunterian chancre.

Dr. R. J. Morrison reported good results from pan-hysterectomy with the galvanocautery in a case in which the body of the uterus and the vaginal tissues were involved. The operation was done eight years ago; the patient is now in good health.

Dr. F. S. Millbury reported that the duration of life after operation in five cases of cancer of the tongue which had come under his observation varied between six months and two years.

Dr. A. C. Brush was of the opinion that the yeast fungus theory of the etiology of cancer did not satisfactorily explain all cases. He thought that the fact that a blow on the breast, causing, as it undoubtedly does in many cases, a deep-seated cancer, contradicted that theory. He raised the question whether the blow did not cause the tissues to take on the abnormal growth. On the other hand, he thought that the germ theory received strong support from the fact that cancer is directly inoculable from one patient to another.

Dr. E. E. Cornwall was of the opinion that the fact that a blow on the breast produced a deep-seated cancer need not necessarily contradict the germ theory of the origin of cancer, because the glandular epithelium in which such a cancer originates is in direct communication with the outer air through the milk-ducts.

Dr. C. R. Hyde quoted statistics which show that in certain regions of Brooklyn and in certain regions of the United States cancer is more prevalent than in other regions. He also described some experiments in which animals were inoculated with a fungous growth found on trees, with the result of producing in the animals a development of typical cancer cells.

Dr. H. T. Hotchkiss (closing the discussion): In treating cancer all physicians will pursue very much the same course. The time for operation is while the cancer is still local, but it is often difficult to find out whether the infection is only local, or regional, or general. In doubtful cases the possibility of shortening life by an operation should be well considered. In doubtful cervix cases local treatment will enable the physician in a short time to determine whether the case is one of cancer or simple erosion. Cancer patients stand anesthesia as well as most others: when they do not it is usually because the operation is lengthy. In the speaker's experience the galvanocautery in pan-hysterectomy has given no better results than the cold steel.

PROGRESS IN MEDICINE.

OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.

Darier (*Rec. d'Ophtal.,* March, 1900), at the March meeting of the Paris Ophthalmological Society, read a paper advocating the use of dionin as an ocular analgesic. Pain in eye is soon relieved, but marked edema follows. In different cases, the chemosis varies in duration and intensity; sometimes it is limited to the point of application and to the lower cul-de-sac, in other instances the bulbar conjunctiva is infiltrated and both lids are very edematous. There seems to be no constant relation between the amount of dionin used and the extent of the swelling. The effect in glaucoma was gratifying, pain was relieved and in some cases a very marked decrease in the intra-ocular tension.

In conclusion, the author said that we now possess a powerful ocular analgesic, capable of relieving for many hours the most violent pains of iritis, iridocyclitis, ulcers of the cornea, and glaucoma. The same authority (*La Clin. Ophtal.,* April 10) states that dionin gives the most satisfactory results when used in a 5 per cent. solution. A drop or two instilled in the conjunctival cul-de-sac causes a smarting sensation similar to a solution of cocaine, but a little more prolonged. A. Graefe (*Deut. med. Woch.*, March, 1900), after treating two hundred cases with dionin, draws the following conclusions: Dionin exerts a favorable action:

1. In all corneal diseases except those associated with trachoma.
2. In diseases of the conjunctiva.
3. In iritis and iridocyclitis (atropin not to be neglected).
4. Also in diseases of the vitreous.

[Dionin (ethyl-morphine-hydrochlorate) is a powder freely soluble in water. Its action seems to be that of an analgesic rather than an anesthetic.—J. W. I.]

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REPORT OF THE SECRETARY OF THE HISTORICAL COMMITTEE.

APRIL 17, 1900.

Five years ago the Historical Committee was appointed, in accordance with a provision made for such a committee and incorporated as part of the laws of this Society, adopted January 15, 1895.

The following committee was appointed: Joseph H. Hunt, M.D., William Browning, M.D., and William Schroeder, M.D. This committee presented their first report on Tuesday evening, April 16, 1895. During the years 1896 and 1897 the same committee was reappointed; in 1898 the name of Homer L. Bartlett, M.D., was added in place of Joseph H. Hunt, who had been elected to the position of President of this Society.

The one effort of the committee was to do justice to our fel-

AARON EDGERTON PECK, M.D.

low-member, more especially so when he had completed his life work among us. To gather together the facts for work of this kind required some time. Your committee on historical work during the five years have prepared a complete list of names of every physician that has ever been proposed or elected to membership in this Society, with complete biographical sketches of about two-thirds of its active members during the seventy-eight years of the existence of the Society, all bound in six large volumes. Previous to the appointment of the Historical Committee there never appeared in print in this city, "to the knowledge of the writer of this report," a portrait of a physician in practise in this city, or any historical matter relating to the medical profession on Long Island in any book or magazine, except a few biographical sketches of physicians in "Thompson's History of Long Island," 2d Ed., 1843; "Stiles' History of Kings County," 1883, and *The Eagle* and *Brooklyn,* 1893.

During the five years there have been published in the BROOKLYN MEDICAL JOURNAL portraits and biographical sketches or obituaries of twenty-six ex-Presidents of this Society, thirty-six of our members who have died in active membership, and the same number of obituaries relating to former members of this Society.

During this time papers of historical interest have appeared in the same journal, as follows:

"Early History of Medicine on Long Island," "Dispensaries, Hospitals and Medical Societies, Kings County, 1860," "History of the Brooklyn Pathological Society," "History Brooklyn Medico-Chirurgical Society," "History Brooklyn Anatomical and Surgical Society," "History Kings County Hospital," "History Brooklyn Medical Society," in print.

I desire at this time, as on former occasions, to express my thanks to my associates on the committee and to the membership of this Society for the uniform kindness they have extended to me on all occasions.

From April, 1898, to April, 1899, the following members have died:

ON THE ACTIVE LIST—DATE OF MEMBERSHIP.

1885. Cornelius Nevius Hoagland, M.D., obit April 24, 1898.
1866. William Carter Otterson, M.D., obit August 17, 1898.
1876. William Henry Bennett, M.D., obit September 1, 1898.
1886. Hayden Nichols, M.D., obit March 4, 1899.

ON THE NON-ACTIVE LIST—DATE OF MEMBERSHIP.

1859-89. Joseph Mott Turner, M.D., obit July 2, 1898.

1874-91. John Rutgert Vanderveer, M.D., obit September 27, 1898.

1858-68. Louis Bauer, M.D., obit November 5, 1898.

1868-86. George W. Baker, M.D., obit December 5, 1898.

1883-90. L. Chapman Smith, M.D., obit December 9, 1898.

1874-84. Alvin Charles Henderson, M.D., obit February 6, 1899.

1892-94. James Wood, "Lieutenant," M.D., obit March 3, 1899.

From April, 1899, to April, 1900, the following members have died:

ON THE ACTIVE LIST—DATE OF MEMBERSHIP.

1892. Willard Parker Bowser, M.D., obit May 4, 1899.

1882. James Little Kortright, M.D., obit August 14, 1899.

1865. Teunis Schenck, M.D., obit August 15, 1899.

1877. Gustav Schmetzer, M.D., obit December 17, 1899.

1875. John Cargill Shaw, M.D., ex-President, obit January 13, 1900.

1881. Aaron Edgerton Peck, M.D., obit March 8, 1900.

ON THE NON-ACTIVE LIST—DATE OF MEMBERSHIP.

1897-99. Lawrence Swan Woodhull, M.D., obit June 8, 1899.

1891-92. George William Neidecker, M.D., obit July 17, 1899.

1860-85. Nathaniel Wilson Leighton, M.D., obit August 12, 1899.

1872-87. William Henry Caemmerer, M.D., August 30, 1899.

1879-85. James Fitzgerald Feeley, M.D., obit August 30, 1899.

1861-82. Cornelius Hanford Schapps, M.D., obit September 1, 1899.

1886-90. Julius Ernest Schroder, M.D., obit January 12, 1900.

1872-74. Ernest G. Metcalfe, M.D., obit February 2, 1900.

1899-99. Robert Francis Cunnion, M.D., obit April 7, 1900.
1884-1898. Henry Dwight Bliss, M.D., obit April 11, 1900.

HONORARY MEMBERS—DATE OF MEMBERSHIP.

Jan., 1900. Charles E. West, A.M., M.D., LL.D., P.D., obit March 9, 1900.

Feb., 1900. John Cooper, M.D., F.R.C.S., obit March 28, 1900; active member, 1859-89.

WILLIAM SCHROEDER, M.D.,
Secretary Historical Committee.

AARON EDGERTON PECK, M.D.

In recording the life work of Dr. Peck it is with feelings of respect that we say he was one of the old school, quiet and unassuming in his manners, ever maintaining that dignity of character which has done so much to place the profession of medicine in the proud position it occupies to-day. For forty-five years he practiced the healing art, and were it possible to note the many acts of kindness, the many hours of labor he gave for the benefit of mankind, the words of encouragement and hope that fell from his lips, we could form some estimate of the amount of good accomplished during these years; but this is the daily labor of our profession, and gives us an incentive to greater work in the future.

Dr. Peck was born in New York City, May 9th, 1834, and died in Brooklyn, N. Y., March 8, 1900. His father was James Walker Peck of Montgomery, Orange County, N. Y., and his mother Ruth Anne Cogswell of Halifax, Nova Scotia. His early education was obtained in the private school of John Laidlaw and Public School No. 8 of Brooklyn.

The study of medicine under the preceptorship of John W. Carson, M.D., was begun in 1852, graduating Doctor of Medicine from the College of Physicians and Surgeons, New York, in 1855; entering upon the practice of medicine in New York in 1855, coming to Brooklyn in 1881 and remaining here until his death.

He was a member of the New York Sanitary Volunteer Corps in 1862, and of the Medical Society, County of Kings, from 1881-1900.

William Schroeder, M.D.,
Secretary of Historical Committee.

ROBERT FRANCIS CUNNION, M.D.

After a few years of active practice, Dr. Cunnion was called to rest. He was born in the city of Brooklyn in 1870, where he died on April 7 1900, his father being John Cunnion and his mother Ellen A. Cunnion. He married Mary E. Reynolds of Brooklyn in 1898. His education was received in Manhattan College, New York City, and his medical education at the College of Physicians and Surgeons, New York, graduating Doctor of Medicine in 1892. During his professional life he was physician to the Letter Carriers' Association, and medical inspector of public schools. He was elected a member of the Medical Society, County of Kings, in 1899, and a member of Christopher Council, Knights of Columbia. His funeral, which was largely attended, was from St. James' Pro-Cathedral of this city.

William Schroeder, M.D.,
Secretary of Historical Committee.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

At the annual meeting of the Pathological Society, held June 14th—the first meeting of this society in the new building of the Medical Society of the County of Kings—the following officers were elected for 1900-1901: President, H. P. de Forest; Vice-President, Archibald Murray; Secretary, H. G. Webster; Treasurer, W. G. Reynolds; Librarian, J. M. Van Cott, Jr.

Dr. Augustus L. Child (L. I. C. H.) is resident physician at the Seaside Home of the Brooklyn Children's Aid Society at Coney Island.

In the list of Brooklyn physicians present at the meeting of the American Medical Association at Atlantic City, printed in the July notes, the name of Dr. Walter B. Chase was omitted. Dr. Chase read a paper before the Association on "Post-Operative Treatment of Abdominal Section in Women."

Dr. Ferdinand Siegel sailed July 4th for a two-months' trip through England, Germany and France. He expects to attend the Medical Congress in Paris.

Dr. Robert G. Cornwell, formerly of Brooklyn, who has practised at Jamesport, L. I., the past twenty-three years, visited this city recently and paid a visit to the new home of the Kings County Medical Society.

Dr. Philip Mills Jones, at one time a resident of Brooklyn, who has written on ancient trephining of prehistoric man, was last spring called to the Smithsonian Institute to make experiments. He has received the Hearst fellowship in archæology, and has now started on a five-years' tour to explore ancient mounds, working from San Francisco south to Mexico.

Dr. H. P. de Forest has opened an office with Dr. F. D. Merchant of Manhattan in the Park Row Building, New York, with office hours from eleven to three.

Dr. John L. Gormley was married June 20th to Miss Loretta Shields.

Wednesday, June 20th, Dr. Charles J. Search of Putnam Avenue was married to Henrietta P. Ditmas, daughter of Mrs. A. V. Ditmas.

Dr. Hubert Arrowsmith married, June 30th, Josephine Howard, daughter of Mrs. Mary C. Howard.

It is with regret that the death must be recorded of Dr. Alexander J. C. Skene, for many years President of the Long Island College Hospital, who passed away at his summer home in the Catskills on July 4th.

At the invitation of Dr. O. J. Wilsey, the superintendent, the Brooklyn Society for Neurology enjoyed its annual outing by a visit to the Long Island Home at Amityville, where they were instructively and bounteously entertained, on June 28th.

On June 15th, the Clinical Society of the Bushwick and East Brooklyn Dispensary enjoyed a collation, preceded by a scientific session, more than twenty of its members being present. Though organized less than a year, the attendance, good will, and social spirit, showed the society to be more than an embryo. Toasts were responded to by Drs. Pilcher, Morrison, Cardona, Ingalls, Ketterle, Hatch, Collins, Lutz, Brush, and Mr. Schemmelpfeng, the apothecary of the dispensary. Dr. J. F. Haller, the president of the Society, was toastmaster of the evening.

The medical library of several hundred volumes, including many recent works, and a number of medical miscellanies, belonging to a physician who recently died, are being sold at 135 Gates avenue. Any one wishing to examine them is requested to call in the forenoon if possible.

It must have been with satisfaction that physicians all over the country read in the daily press of the raid on the "Diploma Mill" in Chicago, and the arrest of all the "professors." This "Independent Medical College," also known as the "National Law School," sold diplomas at prices ranging from three to two hundred dollars—whatever the applicant might afford; and it is said the subscribers graduated at the rate of a dozen a day.

The importance of compelling the use of special bottles for containing poisons which may easily be recognized at night, is frequently being forced upon us by some unnecessary fatality or some mistakes which come near to being serious. Not long ago a physician in the Bedford section took a swallow during the night of tincture of aconite instead of a cough mixture. By the prompt work of his friends he was soon suffering merely from the effects of mustard, stomach tube and apomorphia.

At the German Hospital, the successful candidates for positions as internes were: Louis Mandel (Cornell), George H. Reichers (P. & S.), and J. Francis De Silver (Univ. of Penn.).

Dr. A. L. Benedict, who has been appointed Superintendent of Ethnology and Archeology of the Pan-American Exposition of 1901 at Buffalo, requests any information from physicians interested in this department, or the loan of collections for the use of the Exposition.

The *Medical Mirror* of St. Louis has offered seven prizes for theses on tuberculosis—$500, $200, $100, and four of $50 each. Entries close October 1st, and the award is made January 1st. The points for consideration in each paper, with a percentage attached, will be as follows: General consideration of the subject, 10; pathology, bacteriology, and diagnosis, 20; clinical reports, 20; prognosis and treatment, 35; conclusions with résumé, 15.

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NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

THE INTERNATIONAL TEXT-BOOK OF SURGERY. Edited by J. Collins Warren, M.D., LL.D., and A. Pearce Gould, M.D., F.R.C.S. Volume I, General and Operative Surgery. Royal Octavo; pp. 947; 458 illustrations in text and 9 full page plates in colors. Philadelphia: W. B. Saunders, 1900. Price, $5.00 net.

A few years ago there appeared a book of fiction, "The Final War;" in it were depicted the benefits and advantages that accrued to humanity at large in the union of England and the United States for the purpose of subjugating the remainder of the world and inculcating in the other nations those principles and virtues which we of the Anglo-Saxon race pride ourselves in possessing. Whether such an offensive and defensive alliance of the English-speaking countries of the world would be an unmixed good may be, with some, a matter of doubt, but all will concede that "peace hath her victories no less than war." In this International Text-Book of Surgery, the result of co-ordinate work by the best surgeons on either side of the Atlantic, the medical profession has been given a work that in its particular line has been never surpassed in any language.

London and New York, Liverpool and Philadelphia, Edinburgh, Boston, Chicago and Baltimore have each supplied their best, and the fact that each chapter is signed by its author adds materially to the value of the work. As a rule a volume made up of the work of many different contributors is characterized by a lack of homogeneity, but whether it be because of careful editing or to unusual tact on the part of the individual writers, no such criticism can be made in the present instance.

It would be a pleasure and a privilege to review each chapter *seriatim* and call attention in each to the special points that merit approbation, but space forbids. But few of the many chapters can be specified.

The importance which surgical bacteriology possesses is recognized in devoting to this subject the opening chapter of the book. Ernst of Harvard is the writer and, besides describing the various classifications and identification of the various forms of bacteria, he gives a good account of the methods of culture and of the new work that has been done in serum therapy.

Warren, the American editor, treats a variety of subjects, among which are Hyperemia, Inflammation, Infection, Suppuration, Abscess, Erysipelas, and Hospital Gangrene. His style is pleasing, the chapters are well written and the subjects lucidly treated.

The Surgical Pathology of the Blood is the title of the chapter contributed by Cabot of Boston. For the first time we find full and definite information upon this interesting subject in any surgery in the English language, a distinct advance, and from the pen of such an author this chapter may be regarded as representing the most recent ideas on the subject.

George Ryerson Fowler of Brooklyn, in Chapter V., is at his best. No higher praise can be given. The subjects included in this chapter are Wounds, Contusions, Burns, Scalds, Effects of Lightning, Shock and the repair of Special Tissues.

Weller Van Hook has a valuable chapter on Hydrophobia, Glanders, Actinomycosis and the other common and uncommon infectious surgical diseases. His recommendations concerning the prevention of hydrophobia are supported by the fact that in Great Britain the disease has practically been stamped out by measures taken to prevent the importations of animals. Should our own government take similar measures we too could, in a few years, be relieved of the majority of such cases which now claim a large number of victims annually.

The Technique of Aseptic Surgery is described by Charles McBurney of New York. This contribution represents the latest and supposedly the best methods that surgeons have devised to secure this much to be desired result, asepsis. His views upon the use of rubber gloves are familiar to

HENRY DWIGHT BLISS, M.D.

the medical profession through his article in the Annals of Surgery. His suggestion that the use of hot water bottles should be avoided wherever possible and in grave cases of surgical anemia use in their place hot saline intra-venous infusion is to be borne in mind.

We note the growing tendency of many surgeons to discontinue the use of bichloride of mercury in the treatment of wounds and rely instead upon simple asepsis. While this may be good doctrine in the modern hospitals and in the well appointed city house, it is poor policy for a physician doing his work at a distance from such refinements, and who, by lack of constant practice, is unfamiliar with the nicety of detail required for good aseptic work. In such cases the use or non-use of the much maligned bichloride will mean clean or suppurating wounds in the majority of instances.

Lewis S. Pilcher and his able assistant, James P. Warbasse, have contributed the best monograph upon fractures that it has been our good fortune to see. We offer our congratulations upon their work. The latest and best methods of diagnosis and treatment are given and a free use of skiagraphs illustrate the text.

The work of our trans-Atlantic confrères is on an equally high plane. The chapters on Tumors, by J. Bland Sutton; on Injuries to the Joints, and on Dislocations, by George Henry Makins; upon Diseases of the Bones, by William Watson Cheyne, and of C. H. Golding Bird, on the Surgery of the Spine, are worthy of especial mention.

HENRY P. DE FOREST, M.D.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., and A. Pearce Gould, M.S., F.R.C.S., Vol. II. Regional Surgery. Philadelphia, W. B. Saunders. 1900. Price, $5.00 net.

The work of which the book before us is the second and concluding volume, is altogether the most satisfactory of the several text-books of similar character brought forward during the past few years. The second volume is upon regional surgery, and the arrangement of the text is such as to attract attention and invite commendation at the very commencement of its perusal. The division of the subjects is the most natural and convenient yet offered, and enables the reader to readily follow up a particular line of surgical thought with the very least expenditure of time. In fact each chapter, with the exception of Chapters XXI. and XXII., both of which are devoted to gynecology, is a separate treatise upon an important surgical subject, or the surgical diseases and injuries of a particular region, and the table of contents is a list of these treatises. The index is both copious and well arranged, a most important but too often neglected feature of modern text-books in these busy days of strenuousness in professional life. To comment upon any of these treatises without mentioning them all would appear invidious, but some new features introduced in the way of division of topics and which are made the subject of special care and attention are worthy of particular notice in this connection. Among the most important of these may be mentioned the chapter upon The Technique of Abdominal Surgery by J. Collins Warren, Boston, that upon The Diagnosis of Abdominal Diseases, by A. W. Mayo Robson, of Leeds, England, and that upon the Influence of Age and Race in Surgical Affections, by W. L. Rodman, of Philadelphia. From the same standpoint special mention should also be made of the chapter upon Traumatic Neuroses, by James J. Putnam, of Boston, and that upon Tropical Surgery, by James Cantlie, of London.

The chapter upon Military Surgery is written by the veteran, Col. W. H. Forwood, Assistant Surgeon General, U. S. Army, the well-known writer and authority upon this subject. It is most carefully prepared and presented in the best style of this able author, teacher, and practical exponent of what is most advanced and useful in the surgery of war. It possesses an especial interest, covering, as it does, the experiences of a war in which our own country was recently engaged, and at a time when our nearest of kin across the seas are in the throes of deadly conflict.

Another novel and exceedingly interesting and valuable treatise is that devoted to Naval Surgery, by Charles A. Siegfried, Medical Inspector, U. S. Navy. The difficulties of applying surgical aid on shipboard, these being "in a great degree unavoidable and inseparable from the conditions of the compressed human and material activities of the modern fighting-ship," as the author ably expresses it, are not well understood and appreciated by surgeons in civil life. The perusal of this chapter will be a revelation to many, and one cannot but be surprised at the ingenuity displayed by naval surgeons in overcoming these difficulties. It is a matter of profound regret that the writer of this chapter did not survive to realize with what interest and appreciation his work has been received by his fellow laborers. His death was announced at the moment of going to press.

The entire work is a trustworthy guide to a knowledge of what is modern and best in surgery. The illustrations are well executed, and many of them represent the highest type of medical illustrative art. The publisher has not spared either painstaking or expense in his share of the work, and has fully sustained his reputation in this respect.

George Ryerson Fowler.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 411th Stated Meeting, Thursday, February 8, 1900.
(Continued.)

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION V.—WILLARD G. REYNOLDS, A.B., M.D., CHAIRMAN.

Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus 637
William B. Coley, A.B., M.D.

Some General Observations upon the Operative Treatment of Malignant Diseases 645
George Ryerson Fowler, M.D.

Sarcoma of the Clavicle; Specimen 649
Frederick W. Wunderlich, M.D.

Osteo-Sarcoma of the Humerus; Specimen 650
J. Bion Bogart, M.D.

Adeno-Carcinoma of the Lower End of the Esophagus; Specimen and History 650
Frederick W. Wunderlich, M.D.

Malignant Growths of the Stomach 651
Jacob Fuhs, M.D.

Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus.

William B. Coley, A.B., M.D.

The results of this method during the past year have given me no reasons to change my conclusions already expressed in earlier papers.

The influence of the toxins is much less marked upon the round-celled sarcoma than upon the spindle-celled; the melanotic variety is even less affected. No improvements have been made in the technique of preparing the toxins nor in the manner of their administration. The preparation which I believe to be the best is the mixed, unfiltered toxin of erysipelas and bacillus prodigiosus, made from cultures grown together on the same bouillon and sterilized by heating to 58° C. In children and persons much reduced in strength it is safer to use the filtered toxins, a preparation weaker in about the proportion of one to ten. The toxins to be of any value must be made from very virulent cultures, the virulence being kept up by passing the cultures through rabbits.

The dose varies with the vascularity of the tumor and the condition of the patient. The initial dose is seldom to be more than ⅓ to ½ drop; but as the patient becomes less susceptible it may be greatly increased. Five, six, or in some cases as high as ten minims may be used. If the injections are given subcutaneously remote from the tumor much larger doses may be borne. Strict antiseptic precautions should be observed; the skin should be rendered sterile as well as the hypodermic needle.

Duration of Treatment.—Fortunately, we are able, in most cases, to tell within three or four weeks whether or not any beneficial results are likely to follow. If no improvement occurs at the end of this time it is seldom wise to continue the treatment. If improvement occurs the toxins should be continued until either the tumor has entirely disappeared or the injections have lost their controlling influence.

The question as to how long the injections may be continued without harm to the patient is a most important one. In several cases treatment has been continued for long periods without injury to the patient; in one case injections were made three times a week and continued for two or two and one-half years. In another patient, with eight times recurring sarcoma of the chest wall, toxins were administered, with occasional intervals, for nearly four years. The patient, a well-known physician, is at present in perfect health nearly six years from the beginning of the treatment.

I still believe that the curative action of the streptococcus of erysipelas and of its toxins can only be explained by the theory of the infectious origin of the disease.

After an experience of upwards of eight years with this treatment, the question naturally arises, "Is the method of permanent value, and, if so, what are its limitations and dangers?" This question can best be answered by giving a careful résumé of the final results in the cases so far treated. Before doing this I should like to report very briefly a few recent unpublished cases.

RECENT UNREPORTED CASES OF SARCOMA TREATED WITH TOXINS.

Recurrent Sarcoma of the Tibia; Amputation Advised.

F. W. F., male, age 27, unmarried, was referred to me on February 12, 1899, by Dr. J. M. Stewart of Chesley, Ontario. His family history was good, and there was no tuberculous or specific history. In July, 1898, a swelling over the tibia of his left leg was noticed. It slowly increased in size, and on November 25, 1898, it was operated upon by Dr. Stewart, who made an incision down to the bone and scraped out as much of the diseased tissue as possible. The portion that was removed was sent to Dr. John Caven, Professor of Pathology at the University of Toronto, who, after a careful examination, pronounced the growth a spindle cell sarcoma. The wound healed slowly and a short time afterward the disease returned locally.

Physical examination showed a tumor over the middle and anterior portion of the left tibia about three by four inches in size, projecting above the surrounding tissues to a distance of one-half to three-quarters of an inch. Over the central portion there were two small ulcerated areas.

The patient was sent to the New York Cancer Hospital and was put upon the mixed toxins of erysipelas and bacillus prodigiosus. Within two weeks there was decided evidence of improvement, which continued slowly but steadily until the end of three months, when the growth had apparently entirely disappeared.

About a week after the injections had been suspended the patient became suddenly infected with erysipelas in the unhealed portion of the ulcerated area where the tumor had sloughed out. The patient had a very severe attack of erysipelas and on his recovery returned to his home in Canada.

I personally examined him on the first of September in Toronto, and there was absolutely no trace of any return of the disease. I again heard from him a few weeks ago, and he stated that he was in perfect health and engaged in his regular occupation as a farmer.

Round-Celled Sarcoma of the Nose and Antrum; Partial Success.

J. M., age 42, colored, was referred to me by Dr. William T. Bull, December 29, 1898, with the following history:

One year before he noticed a thickening of the right nostril, and was treated for some time by a throat and nose specialist at one of the clinics, for a polypus. September 28, 1898, he was operated upon at the New York Hospital, and as much of the tumor as possible was removed. It grew again very rapidly after the operation, and when I first saw him it had reached the size of half an egg. One-half the inferior orbital region. and one-half of the cavity of the right nostril were filled, causing marked bulging of the nose and some bulging of the antrum. He had frequent and severe hemorrhages. He was admitted to my service at the New York Cancer Hospital January 9, 1899, and the toxins were given daily; injections were made into the tumor, and the doses increased to the point of getting three or four severe reactions; temperature 103° to 105°. The tumor diminished very markedly in size, hemorrhages stopped. Portions of the tumor filling the nasal cavity sloughed out. With the increased chance of success a few weeks after the beginning of the treatment, I tied the right external carotid artery. The improvement continued until the middle of March, when there was almost no trace of it remaining. Patient was sent home for two weeks; during this interval it began to increase in size. Although he was readmitted to the hospital and the treatment was resumed we were never able to entirely control the disease. There was steady increase in size, although slowly, until the fall of 1899, when it grew with great rapidity, and the injections were stopped. The increase of growth was far more rapid after the cessation of the treatment, and he died not long afterward in another hospital, having undergone operations for the excision of the carotid arteries.

Recurrent Sarcoma of the Cheek, Following Trauma.

Mrs. L., aged 40 years, was referred to me by Dr. C. M. Thomas of Spokane Falls, March 8, 1898, with the following history:

The patient was in good health until June, 1897, when she received a blow from a fist upon her left cheek. A swelling appeared at once at the site of the injury, and never entirely disappeared. After a few weeks it began to grow slowly and seemed to be situated between the skin and the mucous membrane. On February 4, 1898, it had reached the size of half a hen's egg, when it was removed by Dr. Thomas. The patient thinks it did not again recur until about November, 1898. When I first saw her, March 8, 1899, physical examination showed a cicatrix extending from the angle of the mouth on the left side backward two and one-half inches, and extending nearly to the angle of the mouth. There was a hard tumor three-quarters of an inch in thickness and about two by three inches in area. The tumor was firm in consistence and was situated between the skin and the mucous membrane. The mouth could be opened only three-quarters of an inch, and she had not been able to wear her false teeth for several months.

Mixed toxins were begun at once at the New York Cancer Hospital and continued for six weeks, at the end of which time there was entire disappearance of the tumor. On March 3, 1899, I performed a plastic operation to improve the appearance of the mouth, because of the previous operations. I removed most of the old scar. Careful microscopical examination, made by Dr. Buxton, showed no evidence of sarcoma remaining. A few weeks later the patient complained of stinging pains on the site of the cicatrix, very similar to those she had noticed previously when the disease began to return, and there seemed to be a thickening in the scar. Injections were begun for a time and the pain disappeared. Shortly after this the patient returned to her home in British Columbia and I am unable to give the later history.

Sarcoma of the Thigh.

G. R., age 31, engineer, was referred to me by Dr. William T. Bull, December, 1899. Patient's father had been operated on for sarcoma by Dr. Bull in 1894, and later died of recurrence in the brain. Patient himself had always been well, no tuberculous or syphilitic history, and no history of trauma. Had an attack of inflammatory rheumatism four years ago from which he completely recovered. He first noticed loss of power in the gluteal muscles of the right side about two years ago. A few months ago noticed a swelling in the upper and outer portion of the right thigh extending as high as the trochanter. The patient was obliged to use two canes in walking, and walked with a good deal of difficulty even with this support.

Physical examination, December, 1899, at the time of his admission to my service at the General Memorial Hospital, showed a large tumor situated in the upper portion of the right thigh, so firmly fixed that it was impossible to determine whether or not it was connected with the bone. The skin over it was normal. The tumor extended from about the level of the trochanter two-thirds of the distance to the knee. It was very firm in consistence and its outlines were not sharply defined. Measurements taken at the time of admission showed the circumference of the right thigh over the most prominent portion of the tumor, to be twenty-seven and five-eighths inches. The toxins were at once begun and continued regularly in daily increased doses until a severe reaction was obtained. First the injections were made subcutaneously and the needle did not enter the tumor. When the injections were made in this way the patient was able to bear about 12 minims before the chill was produced. Later a longer needle was used and the injections were made directly into the tumor itself; then the injections were so made that the patient could bear 5 to 6 minims, which were usually sufficient to produce a severe reaction. After about two weeks' treatment the outlines of the tumor became clearly defined, and in about two weeks more marked fluctuation was present. The skin was carefully cleansed, and under strictly aseptic precautions a needle was introduced over the fluctuating area and a few drachms of broken-down tissue were removed. Bacteriological examination showed this to be perfectly sterile. About a week later the area of softening having greatly increased an incision was made under cocaine and about a quart of broken-down tissue was removed. This also was carefully examined bacteriologically and pronounced sterile. The wound was carefully washed out, and the toxins were resumed in two or three days, the injections being made in the upper portions of the tumor which had not yet softened. The injections were continued four or five times a week until ten days ago the tumor had apparently disappeared. Careful measurements show that the circumference at present is twenty-one inches instead of twenty-seven and one-half inches at the time of admission. It is true that in this case no microscopic examination was made, but the clinical appearance of the growth is so absolutely characteristic of sarcoma that both Dr. Bull and myself had no doubt as to the correctness of the diagnosis.

There are other recent cases of interest that I could mention did the time permit. It is true that sufficient time has not elapsed in these particular cases to justify one in claiming any permanent cures, and they are not mentioned for this purpose, but merely to furnish proof that the mixed toxins have a specific action upon sarcoma. That this action is permanent and curative in a large number of cases is proved by a brief reference to my earlier cases already reported; a brief summary of these results may be of interest.

Case 1. Spindle-celled sarcoma of the neck and tonsil. Tumor nearly disappeared under injections of the living bouillon cultures of erysipelas. Patient still well six years later.

Case 2. Round-celled inoperable sarcoma of the back and groin. Injections of the mixed toxins. Entire disappearance. Patient remains well after three and one-quarter years, when he has intra-abdominal recurrence which proved fatal.

Case 3. Spindle-celled sarcoma of the abdominal walls and pelvis. Mixed toxins administered January 3, 1893. Tumor entirely disappeared. Patient alive and well at present, seven years later.

Case 4. Spindle-celled sarcoma of the abdominal walls. Pronounced inoperable by Dr. Richardson of Boston. Microscopical examination by Dr. Whitney of the Harvard Medical School. Tumor entirely disappeared and the patient is now well, six years later.

Case 5. Recurrent spindle-celled sarcoma of the poplitcal space and leg. Tumor disappeared. Recurred one and a half years later. Amputation of the thigh. Recurrence in the gluteal region treated with toxins; patient now well, six years after.

Case 6. Inoperable epithelioma of the chin, lower jaw and floor of the mouth. Mixed toxins for three months. Growth disappeared. The patient was well when last heard from, five years later. This patient was pronounced inoperable by Dr. George R. Fowler of Brooklyn.

Case 7. Inoperable spindle-celled sarcoma of the chest-wall. Toxins administered four months. Entire disappearance; patient perfectly well four years afterward, when last heard from.

Case 8. Very large chondro-sarcoma of ilium. Toxin six weeks in March, 1894; entire disappearance; recovery. Good general health. Disease recurred seven months later. Proved fatal within one year thereafter.

Case 9. Round-celled sarcoma of the mesentery and gall-bladder. Toxins five months; disappearance of the growth; patient well five years later.

Case 10. Inoperable sarcoma of the scrotum. Clinical diagnosis only. Patient in emaciated condition. Toxins administered for six months. Entire disappearance of the growth. Patient well nearly four years later.

Case 11. Recurrent spindle-celled sarcoma of the hand. Toxins in the spring of 1895. Three years later there was another recurrence which no longer seemed to be controlled by the injections and amputation of the arm was advised; patient refused, and was treated for six months by a Christian Scientist, by which time the growth, which was the size of an English walnut, increased to the size of a cocoanut, and the soft parts of the arm and forearm were involved to within four inches of the shoulder-joint. I amputated the arm just below the shoulder-joint. Patient returned to his home in December, 1899, greatly emaciated from septic absorption, although no evidence of internal metastatis could be ascertainable.

Case 12. Recurrent round-celled sarcoma of the lower lip. Three times recurrent. Toxins were administered for six weeks. Tumor disappeared. Patient, who was the daughter of a physician, remains well up to the present time, three years later.

Case 13. Recurrent spindle-celled sarcoma of the parotid gland and neck. Toxins administered August, 1897. Tumor entirely disappeared and patient was shown a month ago at the New York Surgical Society with no trace of recurrence two and one-half years after treatment.

Case 14. Large intra-abdominal spindle-celled sarcoma. Inoperable. Treated with mixed toxins November, 1895. Was first treated by Dr. Cobb of Boston with the result that the growth entirely disappeared. Recurred shortly afterward and she was treated by myself for the recurrence. A large tumor nearly filling up the right iliac fossa; growth diminished in size and nearly disappeared when she returned to her home. I learned two months ago that she was still living and comparatively well four years later.

Case 15. Inoperable sarcoma of the iliac fossa. Clinical diagnosis. Toxins were administered April 10, 1897. Clinical diagnosis in this case was made by Dr. George R. Fowler, by an exploratory operation through the abdominal wall, showing that the growth was exceedingly vascular and prognosis was absolutely bad. Improvement after the toxins were given was very marked and rapid. Tumor entirely disappeared; some of the broken-down tumor became infected and formed soft sinuses in the gluteal region, which were a long time in healing. The last time I heard from the patient, about six months ago, there was no return.

Case 16. Thrice recurrent sarcoma of the parotid gland. Patient had been operated upon previously by Dr. Bull. Further operation was deemed inadvisable. Toxins were given in small doses for about six months. There was marked decrease in the size of the tumor. There has been no return of the disease up to the present time, three years later.

Case 17. Very large recurrent angiosarcoma of the breast. Treated January, 1895. Tumor decreased so much in size that it was easily removed by operation. The patient was well and free from recurrence when last observed, May, 1896.

Case 18. Spindle-celled sarcoma of the chest wall, eight times recurrent. Mixed toxins in small doses. Treatment begun November 4, 1894, and continued with occasional intervals of rest for three and one-half years. Patient is in perfect health at present, five and one-half years later.

Case 19. Large inoperable round-celled sarcoma of the iliac fossa. Treatment begun in June, 1893, and continued with intervals for about six months. Tumor nearly disappeared and the patient was well when seen one year later.

Case 20. Large inoperable recurrent tumor of the upper lip. Diagnosis: Fibro-angioma. Mixed toxins were given in November, 1895, and continued one month, when tumor disappeared and the patient remained well two years later.

Case 21. Large inoperable recurrent sarcoma of the ilium. Mixed toxins were given in 1894. The tumor decreased in size. The patient remains in good health at present, one year later.

Case 22. Inoperable spindle-celled sarcoma of the palate and pharynx extending to the vocal cords. This patient was seen in consultation and the treatment begun by myself. The treatment was carried out by Dr. Walter B. Johnson of Paterson, who published a full history of the case in the *Medical Record,* Nov. 17, 1894. Tumor disappeared and the patient remains well up to the present time, nearly seven years later.

Case 23. Inoperable spindle-celled sarcoma of the pectoral region and axilla. Treatment begun December, 1895. In this case treatment was carried out under my direction by Drs. Storrs and Griswold of Hartford, Conn. Seventy-eight injections of the filtered toxins were administered. Tumor entirely disappeared, and the patient was well when last heard from, more than three years later.

As some of the gentlemen present may not be familiar with the full report of my cases which I made about two years ago, and in which the cases I report to-night are not included, a few facts may be of interest.

At that time I had treated 140, of which 84 were round-celled and 21 spindle-celled. Of the round-celled, in 40, or slightly less than half, the result was only temporary; of the 21 spindle-celled cases, in 10 the growth disappeared entirely, and in all the other cases showed marked improvement. As regards the round-celled sarcoma, other men have had more successes with it than I have had.

5 Park Avenue, New York City.

Some General Observations upon the Operative Treatment of Malignant Disease.

George Ryerson Fowler, M.D.

The operating surgeon finds it quite necessary to take a very comprehensive view of malignant disease. Wide differences exist between the course and effects of similar varieties of malignant disease in different parts of the body, as well as striking differences in the behavior of neoplasms of similar types occurring in the same part of the body, and, so far as can be observed, under precisely similar conditions. In arriving at a conclusion, therefore, as to the advisability of operating at all, as well as in stating the post-operative prognosis of an individual case of cancer (applying the term to every kind of malignant tumor) the surgeon is influenced by the course which the growth has pursued up to the time when the case first comes under his own observation.

As illustrative of this, take, for example, cases of fibrous carcinoma or scirrhus of the breast, where all possible variations exist as to rapidity of growth, involvement of the skin, of the pectoral muscles, of the neighboring lymphatic glands, including those of the axilla and of the outer and lower border of the large pectoral muscle, and in the subclavian region. Under circumstances of comparatively rapid growth, say, for instance, where the entire breast has become infiltrated in six months or less, and in which the organ has become fixed to the muscles of the chest wall, together with palpable lymphatic involvement, while he may feel justified in consenting to operate, and, in the light of the more favorable experiences resulting from the introduction of the radical procedures of Halsted and Meyer as based upon the observations of Sanger and Heidenbain, even advise operation—he cannot help comparing the prognosis in this class of cases with others in his experience in which the disease has pursued a more decidedly chronic course. And yet, so far as the ages of the patients, the type of the individual and her habits of life and general health as well as the location and consistence of the growths and their gross and microscopical characteristics are concerned, the conditions are apparently the same. And between the one extreme, in which a period of time covering but six months suffices to bring the patient to the verge of inoperability, and the other, in which three or four years have elapsed and still the disease remains, to all intents and purposes a localized affection, tumors are observed of all intermediate degrees of malignancy. Yet all of them possess in common the same unvarying characteristics, namely, the tendency to infiltrate the entire organ, to extend into the adjacent tissues, to affect the lymphatic glands, to reproduce their kind in distant parts, and finally to destroy life.

That there is a time in the history of every case of cancer in which the disease is a strictly localized affection is a proposition to which few will dissent; and therefore the earlier the tumor is removed the more likely is the operation to be permanently successful, becomes a self-evident truth. And yet instances of late yet successful operations for cancer are being constantly cited in favor of deferring operative interference until the diagnosis has been positively assured, or other means have failed to influence the disease favorably. All that can be said of such an argument is that these are merely instances of modified malignancy, and that, had they been operated upon earlier the same favorable results would have been reached with less risks of local recurrences, metastatic involvement, and dyscrasial effects, to say nothing of the necessity for less formidable operations.

Clinical experience teaches us that a rapidly growing tumor of the breast, without apparent involvement of the structures beyond the organ itself—in other words, its rapid growth alone constituting the evidence of the degree of its malignancy—may offer as grave a prognosis as a tumor in which palpable involvement of the lymphatics has occurred after the lapse of several years. This, taken together with the fact that a tumor which commences a rapid growth rarely ceases to present this characteristic until it is either removed by operation or destroys the patient, and that a slowly growing tumor may take on rapid gowth at any time, forces upon us still further the recognition of the immense advantages of early operation.

With these facts before us it is natural to enquire as to the reasons for delay in instituting operative interference in malignant disease. In my experience this is due, first to the fact that, in the case of tumors externally situated at least, the patient either refuses to let its existence become known, or, when it does become known, through dread of the knife or in the hope that an error in diagnosis has been made, persistently declines operative interference until the golden hour of immediate safety and ultimate security has passed. Second, to the belief that operative treatment may be applied with equal success at any period of the case, and that, therefore, there is no haste. Third, the medical attendant is sometimes to blame in that he either fails to make a diagnosis, or, for reasons of his own, advises delay. Fourth, in not a few instances the existence of the disease has been entirely overlooked until it has almost reached the inoperable stage.

There can be no question that the operative surgery of malignant disease may be pushed beyond its reasonable limits, and that, as a consequence of this and the immediate mortality which attends these attacks upon deep-seated and comparatively inaccessible organs (lessened though this has been by the improved conditions of modern surgery), as well as the failure to cure the patient in cases in which recovery takes place from the operation itself, opprobrium is cast upon legitimate operative work. In this connection no comparison can be drawn between the most extensive and even dangerous operations for the removal of diseased conditions of a non-malignant character and those for cancer. In the first-named a successful termination of the case so far as the operation is concerned means everything to the patient, since the result implies a cure in the full sense of the term. In the case of the patient with cancer the case is far different. The most favorable cases for operation must necessarily leave the operator in doubt as to the final result, and the patient constantly facing a dread that is only too often realized.

Even short of these extreme instances there is a tendency on the part of some ultra-radical operators to perform unnecessarily severe operations in malignant disease. While it is true that no surgeon would hesitate to remove the entire breast in a case of indubitable cancer of that organ, and that, in the case of the eye or the testicle, nothing short of a complete removal is ever thought of, there are other organs, such as the tongue and uterus, in which an involvement of a portion does not necessarily demand a removal of the whole. The same may be said with reference to the question of removal of adjacent lymphatic glands. Operative experience teaches us that, in the case of the breast, lymphatic glandular involvement is frequently present when their existence has not been demonstrable prior to the operation. On the other hand, it is not necessary to dissect out the submaxillary and suprahyoid glands in cancer of the lower lip or anterior portion of the tongue, nor the upper set of the deep cervical gands in cancer of the posterior portion of that organ, nor of the inguinal glands in cancer of the penis, the vulva and vagina, unless these are palpably diseased. At least this is true of cases in which the conditions are such, as for instance, in thin patients, that the glandular structures are capable of demonstration if anatomical changes have occurred. In regard to the lymphatic vessels, it may likewise be said that, if the very decided cord-like growths described by Gussenbauer are found it is best to remove these; otherwise, the lymphatic vessels, too, need not be necessarily identified and dissected out, even if this were possible.

There is likewise too great a tendency to the performance of what may be termed "stock operations," as well as to pay too much attention to the removal of parts originally concerned in the disease, to the frequent neglect of overlying parts subsequently involved. This may be exemplified by the favorite operation of disarticulation at the shoulder joint for osteo-sarcoma of the humerus. The disease recurs with comparative frequency in the flaps taken from the tissues overlying the humerus, whereas, an amputation above the shoulder joint, or even an interscapulothoracic amputation with preliminary ligature of the subclavian artery gives an increased immunity from recurrence out of all proportion to the increased risks taken in the operation itself.

The remark is attributed to a celebrated continental surgeon that, if it were not for wars, epidemics and enterprising surgeons, the world would soon become overpopulated. And in the same school was born the proposition that inasmuch as patients with cancer are doomed unless rescued by the resources of surgical art, and that, in many instances, their stay on earth it attended with suffering beyond the power of human skill to alleviate in whole or even in part in many cases, therefore, an operative attack is justifiable in all cases of malignant disease. This sentiment, carried to its logical conclusion, would certainly go a long way toward enabling the surgeon to do his share in preventing the world from becoming overpopulated. There is not one of us, however, but would protest against being made the agent for administering euthanasia by means of the knife, even if the patients desired it and the State permitted it.

301 De Kalb Avenue.

Sarcoma of the Clavicle; Specimen.

Frederick W. Wunderlich, M.D.

This specimen is a myxosarcoma which developed in a young woman about 24 years of age. She noticed it first in the early part of July, 1899, after a long bicycle ride, and when she came to me at that time she had a little tumor about the size of an almond, difficult to move, but apparently not intimately connected with the clavicle. She had applied tincture of iodine to it, of course without any effect, and I told her to leave it alone and present herself for a second examination in a few weeks. Owing to sickness in the family she did not come until the end of October; it had developed into a tumor two inches long, and I told her it would be necessary to remove it.

When I made the examination I did not feel sure that it was in close apposition to the clavicle, nor did it appear to be adherent to the bone, but during the operation it was found to be firmly adherent to the posterior surface of the clavicle. I closed the wound, but unfortunately there was infection from the catgut and suppuration took place. In a few days, from the surface of the clavicle where the tumor had been in apposition, fungoid growths sprang up and developed so rapidly that there could not be any question about the malignant nature of the tumor, about which I had not felt quite sure. I gave a specimen to Dr. Van Cott for examination and he pronounced it myxo-sarcoma and of course removal of the bone to which it was attached was absolutely necessary. I removed the bone, but owing to the suppuration which already existed the wound was infected and the recovery was rather prolonged. At the present time, however, the patient is in very fair condition and has regained complete use of her arm.

Whether there will be a return it is as yet impossible to say. There is no evidence at the present time, but there may be a recurrence later.

165 Remsen Street.

DISCUSSION.

Dr. Brinsmade stated that sarcomata of the clavicle are not so very rare. Dr. Delatour was the first in Brooklyn to remove the entire clavicle, and there have been two since. One of the cases died eighteen months after the operation; the other two are still living, with perfect functional results.

Osteo-Sarcoma of the Humerus; Specimen.

J. Bion Bogart, M.D.

This enormous tumor was removed from a young man aged 25 in the Kings County Hospital, in 1897. The axillary artery was first ligated and then the ordinary operation for the amputation of the upper extremity was performed. There was a prompt recurrence of the growth. I left him in the hospital, and he came under the care of Dr. Bristow, who succeeded me. He did some further operation without great success.

423 Washington Avenue.

DISCUSSION.

Dr. Bristow: I showed the patient to the Surgical Society two weeks after the operation. I did a total extirpation of the clavicle. He died in the service of Dr. Maddren, of a recurrence in the lungs.

Dr. Maddren: Both lungs were presented to the Pathological Society and were very generally infiltrated. The toxins were used, but had no effect, as the patient died shortly after their first introduction.

Dr. George R. Fowler stated the most recent investigation as to the site of recurrence and the mortality of shoulder-joint operations and disarticulations at the shoulder-joint, compared with amputations above the shoulder-joint or even an intra-scapulo-thoracic amputation, are such as to encourage us to believe that a greater immunity will be conferred, and the greatest amount of length of life saved, by performing a radical operation in the commencement of such malignant disease occurring in this region.

Adeno-Carcinoma of the Lower End of the Esophagus; Specimen and History.

Frederick W. Wunderlich, M.D.

Here is the esophagus and stomach of a patient who died May 1, 1900. The remarkable feature about the case is that he did not have any pain at the site of the trouble at all; he complained of no pain during his entire sickness, the only discomfort was from thirst and incessant vomiting, owing to food passing down to the obstruction, remaining there for a while, and then regurgitated.

The first sickness dates back as far as December, 1899. He commenced to fail in strength and came to my office complaining about a cold; I prescribed for his cough. He did not complain of any trouble with his swallowing until the 22d of January, 1900, but from that on the difficulty increased rapidly.

He soon complained that he felt a pain on swallowing and then he felt the food lodge part way down. In the early part of February the food would at times remain in the constricted portion and then pass on slowly, but finally he rejected everything and there was incessant vomiting. I had him supported with enematas, but I told him the only way to prolong his life was gastrostomy, but he refused any operative interference, and so died of exhaustion and starvation.

I knew the man nearly thirty years, and he had been all that time a hard drinker, and yet his liver did not show the slightest effect of the alcohol. He was perfectly well, but the heart was very much affected and so were the kidneys, but this was, of course, the immediate cause of his death.

You will notice that there is one tumor well up in the esophagus and another at the lower end close to the cardiac orifice; there are also metastatic tumors along the smaller curvature of the stomach.

Dr. Van Cott pronounced the lower tumor a carcinoma, and the one higher up in the esophagus an adenoma. The growth began in the lower end of the esophagus and involved secondarily the cardiac orifice of the stomach.

165 Remsen Street.

Malignant Growths of the Stomach.

Jacob Fuhs, M.D.

The seat of the malignant disease in carcinoma of the stomach differs so materially from those cases treated by Dr. Wright that there cannot fail to be a corresponding influence upon the symptomatology and treatment. We have to deal with a large hollow organ suspended on ligaments, very movable, capable of free motion of its own, peristaltic and respiratory; practically inaccessible at present time to the sight; and very difficult to reach by the ordinary means of diagnosis, palpation and inspection of the integuments covering it. The recognition of disease of this organ presents difficulties that are not found anywhere else; consequently malignant disease of the stomach is often found only at the time when the disease is far advanced. The only remedy that we have for this condition up to the present time is the knife of the surgeon, and the results are not equal to those obtained by operators upon other parts of the body, though within the last ten years there has been some improvement in this respect, and either the whole organ or the pyloric portion has been removed successfully and with permanent benefit.

I have here an account of a case reported by Rosenheim, a pylorectomy, in which the patient was examined a year and a half after the operation and the result was this, the patient regards himself as well; the greater curvature, that had been before the operation four fingers below the umbilicus, occupies a position at the line of the umbilicus; there is hydrochloric acid in the stomach contents though in small quantity, the ferments have returned, and an hour after an Ewald's test breakfast only 70 c.c. of the test meal is found. It was also found that by inflation the stomach was able to retain the inflated gas. There was a closure at the pyloric end of the stomach.

I wish also to report the following case of my own:

Case I.—J. S., a man 47 years old, was first seen by myself in April, 1893, three months after he first noticed symptoms of gastric disturbance. He had previously enjoyed robust health and "could eat anything." He first noticed a sense of pressure in the epigastrium and about the first of March vomited for the first time.

During these three months he lost ten pounds in weight, but he was well nourished and it made no perceptible difference.

At the time of my first examination he looked well; there was no cachexia, no tumor could be found; the abdominal muscles were lax, and inflation showed the stomach to be in its normal position.

In the evening his stomach was washed out and no food was taken till the next morning, when he took a test meal. Upon examination one per cent. of hydrochloric acid, considerable lactic acid, large quantities of yeast cells were found in the stomach.

Although the facts thus elicited were meager, I felt justified in making a diagnosis of cancer of the stomach, and advised operation, which was refused.

A month later symptoms of stenosis developed. Frequent and characteristic vomiting occurred, emaciation progressed rapidly, and little urine was passed. Suddenly, with no apparent cause, the pyloric obstruction gave way, he gained twenty-five pounds in weight, looked the picture of health, and was much amused at my diagnosis.

I examined him again and now found a movable tumor in the region of the gall-bladder, but not the gall-bladder, which displaced the stomach so that the greater curvature was much below the umbilicus, the lesser about midway between the umbilicus and ensiform. The pancreas and the aorta could easily be felt. He remained in good condition, however, for the summer, but in the fall he again had symptoms of obstruction, and he died late in the fall in a peculiar way. He had an attack of tetany, not the usual tetany that has been described in malignant disease of the stomach, but he became unconscious a few hours after the tetany had set in, and then lingered for three weeks; there was no rise of temperature; I saw him frequently then, and Dr. Bartley, who sent me the case in consultation, saw him also; he died in deep coma.

Dr. Moser made the autopsy. Permission was not given to examine the brain. In the abdomen more malignant growth existed than had been supposed. The carcinomatous mass involved the pylorus and the lesser curvature of the stomach.

In this case an early diagnosis was made on account of the symptoms of obstruction, and later came the gradual sinking of the stomach, though there was no dilatation of the stomach—a fact well to remember, because in most text-books it is stated that dilatation of the stomach is a symptom of malignancy. I personally believe to the contrary; it speaks against malignancy. In many cases the malignant disease of the stomach runs a rapid course, there is no time for any dilatation, and the displacement of the stomach is a much more important symptom than the dilatation. In the chronic catarrhal gastritis dilatation is much more frequent. Cases of carcinoma of the stomach, where the growth occurs at the cardiac end, we need not consider here, because they would follow the course and have the symptoms of malignant disease of the lower end of the esophagus; the obstructive symptoms would be the same. Thus far no surgical treatment that has been devised, as far as my own cases were concerned, will remove such a growth at the cardiac end of the stomach.

Carcinoma of the body of the stomach is the form most frequently diagnosed. Here the surface is more exposed and the mass can more easily be felt. Emaciation is often much greater than when the growth occurs at either end. Sarcomatous growths occur at any part of the stomach. They do not influence the secretion as much as the growths that spring primarily from the mucous membrane, and they do not spread so rapidly upon the surface as those that begin first in the muscular layer, so that the influence over the secretion is not marked for a long time. This explains why there is so frequently a failure of nutrition in the one case and not in the other. I have had an opportunity to see more than one case of sarcoma that affected the orifices, while I have had a great many cases of carcinoma that affected the orifices. The treatment being surgical exclusively, is not for its curative effect and is only palliative. Irrigations of the stomach will relieve the patient of a good many of the symptoms for the time being, and morphia is recognized as the remedy when nothing else can be given.

871 Park Place.

DISCUSSION.

Dr. Bristow stated that he had had some little experience in the use of the toxins. In all cases in which he had used the toxins there was decided improvement, even in a case of epithelioma of the rib, and several cases of carcinoma. In a case of osteosarcoma of the clavicle in which he used the toxin treatment some four years ago, the tumor diminished more than one-third while the patient was under observation.

If Cohnheim's theory as to the origin of such neoplasms be accepted as true, and malignant tumors are the result of embryonic rests, the rationale of this treatment is inexplicable; but if we assume that to which all the clinical facts point, namely, that there is a parasitic origin of this disease, then we can find a reasonable explanation for the curative power of these toxins. A tuberculous patient will give the tuberculin response or a glandered horse will give the mallein response, and while in sarcoma there is not a corresponding response, the effect of the toxins are curative. The theory of Cohnheim has done more to retard the therapeutics of malignant growths than any other one thing. It has never been a satisfactory theory, and therapeutically it leads nowhere.

Senn, in his work on tumors, makes the following statement regarding sarcomata: "It is impossible to explain the origin of the tumor from normal connective tissue without assuming a microbic tissue; therefore, we are forced to conclude that sarcoma is produced from a matrix of embryonic tissue cells of congenital origin." A more courageous *non-sequitur* is rarely met with. It must be admitted that the parasitic origin for the cancers is not yet proved, but if we assume the theory, investigation is much more apt to be stimulated.

Pathologists who accept Cohnheim say these are fetal inclusions and embryonic rests. What are the original fetal inclusions? They are the dermoids, those peculiar cysts in which we may find part of a jaw and teeth, or hair. Do they go further? No. Do they repeat themselves in other parts of the body? They never do. What of the sarcoma? They do repeat themselves in other parts of the body; most all of us have seen multiple sarcoma that travel along the sheaths of the blood-vessels very rapidly. Now, if a carcinomatous growth is simply due to the fact that epithelial cells are out of place, and being out of place proliferate, experimental anatomists should be able to take particles of skin and epithelial tissue and burying them deep in the tissue ought to produce multiple growths. This has actually been tried, but it produces an affair very much like a dermoid cyst. It is a local affection; it does not repeat itself elsewhere. Why, after all, should an embryonic cell be any different from what Saunders is pleased to call normal connective tissue cells? All cells originally were embryonic. It woud seem that the sooner we abandon this theory of Cohnheim as not justified clinically and as being no rational hypothesis toward which we can work therapeutically, the sooner we will get at the true cause, and we shall never treat cancer successfully, medically or surgically, in the long run until its cause is accurately known.

Dr. Coley expressed his thorough accord with what Dr. Bristow had said about the etiology of cancer, and stated that as long ago as 1892 he was convinced that the only rational way of explaining the action of the toxin was by admitting a parasitic origin of the tumor. That conviction has gained in strength each year.

The connection between trauma and malignant disease seems one of the strongest reasons we have for believing in a parasitic origin. About two years ago Dr. Coley published a series of about thirty cases of sarcoma of traumatic origin out of 160, something like 27 per cent., and many of those cases showed incontrovertible evidence that trauma was the direct or initial cause of the production of the disease. Now, to explain this on the theory of rests or Cohnheim's theory is difficult, but having ample evidence it is easy to explain it on the theory of parasitic origin, from its analogy to tubercular disease. At the Ruptured and Crippled Hospital cases of tubercular disease of the knee-joint or some other joint directly following some trauma, are common. The tubercular germ is of course present in the system, and the injury simply lessened the resisting power of the part and thereby gave the germ an opportunity of localizing in that particular place. The traumatic origin of cancer and all forms of malignant disease can be easily explained in precisely the same way.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 9.
WHOLE No. 153.
BROOKLYN, N. Y., SEPTEMBER, 1900.
Single copies 25 cents
$2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

SOME PROBLEMS CONCERNING NERVOUS DISEASE.

BY F. W. LANGDON, M.D.,
of Cincinnati.

An address delivered before the Brooklyn Society for Neurology at the inauguration of its new home in the building of The Medical Society of the County of Kings, New York, April 28, 1900.

Mr. President and Members of the Brooklyn Society for Neurology: My first privilege, and a most gratifying one it is, I assure you, is to extend to you my congratulations on the completion of this, your new home, with its commodious, effective, and luxurious appointments.

Such a structure is more than a monument to science; for *monuments* are best suited to the departed; *this* is an *inspiration* which cannot fail to exert a potent influence for the growth of medical knowledge and the relief of the distressed.

May the good work continue to grow and spread until the erection of such temples of our science and art throughout the land shall be one of the crowning achievements of the twentieth century.

When I received the very complimentary letter of your distinguished president, inviting me to be with you and assist in commemorating this happy and momentous occasion, my sense of appreciation of the honor was only equalled by my profound realization of the difficulty of properly meeting its requirements.

Knowing, however, as I do, the proverbial charity of the profession, and realizing also that something more than platitudes and felicitations is requisite to furnish food for scientific digestion, I will proceed at once to ask you to consider with me some of those clinical problems concerning nervous disease, which arise from our newer and better knowledge of the structure and functions of the nervous system within recent years.

The mode of causation, the location, and the nature, of disease processes have been considered in all civilizations as problems well worthy of the best efforts of medical minds.

One needs to take but a cursory glance at the history of medical evolution to realize that the conceptions of disease which have resulted from the more or less successful solution of these problems, have been, in all times, most weighty factors in influencing the modes of treatment.

When diseases were the work of demons, prayer was the appropriate resource. With the advent of the humoral pathology, eliminative measures were all-important.

The doctrine of *phlogosis* called for a quenching of the fire by removal of the supposed fuel—and blood-letting had its day. As the parasitic nature of some diseases became probable or established, antiseptic measures arose, and have finally culminated in modern times in according to causal therapy or preventive treatment the first place in practical medicine.

The early conceptions of the location and nature of disease processes, based on clinical observation and deduction alone, had little lasting value. One by one they have given way before the searchlights thrown upon structure and function, by the scalpel, the physiological experiment, the microscope, and the chemical stains, of the biological investigator. And in no portion of the vast field of medicine have these influences been more potent in promoting newer and more definite conceptions of disease than in that which it is the special object of this society to cultivate.

The chief factor to which we owe these more definite conceptions of nervous disease is, of course, the

NEURON DOCTRINE.

Neuron theory, if you prefer; I would call it the neuron discovery. Before the veil was lifted from the neuron by Cajal with the aid of the Golgi staining methods, we were practically as much in the dark as regards the anatomical seat and limits of nervous functions and their disturbances as we were in respect to the circulation of the blood in pre-Harveian days, or the morphological constitution of the blood in pre-Malpighian times. It is true that the neuron doctrine has been criticised as inadequate by some, and its practical importance has been denied by others, but so far nothing can be said to have taken its place either actually or potentially. And, as recently stated by Gowers,[2] who compares it with the broader range of vision acquired by climbing an eminence, while "we may not feel absolutely sure that the new view is quite correct, we can see clearly that it is *nearer the truth* than were our old conceptions."

Anatomically the neuron has converted chaos into order. That which was a jungle of foliage and weeds is becoming an orderly garden of well trained shrubbery.

Pathologically, the neuron enables us to arrange a mass of disconnected facts into a mosaic of knowledge of fairly definite pattern. It enables us to recognize the limits of degeneration in certain cases and to predict results based upon those limits. It is not too much to hope that it may eventually lead to the ability to prevent or arrest degeneration in some cases by reason of early diagnosis and treatment. In fact, as is well known, the prompt resort to medical or surgical measures even now, in cases with beginning degeneration from compression, often enables us to forestall extensive and irreparable degenerative changes. In short, the neuron has made our conceptions of nervous processes clearer, diagnosis more prompt and more exact, and therapy more rational, all to the benefit of the patient and the satisfaction of the physician. That it has not yet led to even greater results is due, not to any fault of the neuron principle, but to our imperfect knowledge of its details.

It may be a fact of more than local interest to note that some of the present-day conceptions of the attributes of the neuron were foreshadowed more than twenty-five years ago in this city (in its "greater" sense) by Dr. Samuel Spahr Laws, in a thesis[3] presented to the faculty of Bellevue Hospital Medical College for the degree of Doctor in Medicine, January 30, 1874.

This author, who is a valued personal friend, and a graduate of law, medicine, and theology, has held important chairs in various educational institutions and was for a term of years president of the Missouri State University.

Of the nerve fibers he states (p. 155):

"But under all circumstances the white matter, whether in commissural masses or in its minutest distributions, is made up of fibers which *never coalesce with each other, anastomose,* branch or *intercommunicate* as do the blood-vessels, the lymphatics, the air-passages of the lungs, or the ducts of the liver and kidneys. *Each nerve fiber preserves its individuality and continuity throughout its entire course."*

Of the gray matter he states (p. 65):

"And hence the cell, instead of acting the exaggerated and hyperphysiological part assigned to it of *ideation,* and elaborating thought and all mental activity, may find its hands full of the more natural physiological work of ministering to the *nutrition* of the *busy fibers,* as they ceaselessly functionate muscular contractility and *subserve psychological as well as physiological demands."* (Italics by present writer.)

It will be noted that this same idea of the importance of the neuron body in a nutritional sense and of the fibers or fibrillæ in a dynamic sense, has been expressed by Gowers since the advent of the "neuron" in his "Dynamics of Life,"[4] and applied by the speaker, in a monograph of "The Aphasias,"[5] to the diagrams and descriptions of speech processes.

Facts are said to be stubborn things; we may also do well to remember that they are *useless things* until connected together in a way to show their relationship to each other.

As the words in a dictionary are not literature until rearranged in other than alphabetical order, so facts alone can never constitute a science.

"Ars longa, vita brevis"; the limitations of life render *principles* of the greatest importance as time-savers. By means of the neuron doctrine we are enabled to apply the principles established with regard to one set of neurons to another set of quite different function, and whose disorders consequently are manifested by diverse symptoms.

Had the neuron doctrine no other use than in giving rise to a "new formulation of problems"[6] it would still be of great value as a factor in neurological progress.

To some of these problems which are in process of formulation and solution I shall now invite your attention. They are common, every-day problems, to be sure, which have occurred to me as they doubtless do to all of you, mainly in their clinical connections. Some of them may lead us into fields not strictly neurological, in which case we may be reminded of that old definition of the dermatologist as "a man who treats all diseases *on* the skin, *in* the skin, and *under* the skin." Were the neurologist to assume a corresponding position and treat all diseases manifested through, in, or around the nervous system, even the dermatologist would need to look sharply after his specialty.

The first problem, or more properly, the first series, to which I shall refer relates to

LOCOMOTOR ATAXIA,

the frequency of which gives opportunity for study which renders it peculiarly available as a basis from which to view other diseases of similar pathology but greater rarity. It is now so generally accepted that tabes is a degenerative disease of sensory neurons that an apology is needed for recalling the fact to such an audience as this. I may be permitted, perhaps, to take a pardonable degree of satisfaction in believing that I was one of the first, perhaps *the* first in this country to disseminate this view of tabes, both in clinical teaching and before a medical society.[7] Not that I possess the slightest claim to originating it, for that honor belongs to many men (Mobius, Marinesco, Gowers, etc.). This recognition of locomotor ataxia as a sensory neuron degeneration, however, should not lead us to the erroneous conclusion that the entire subject of tabes is a finished chapter. Many problems await solution in connection with its symptoms and lesions, some of which may alter materially our current notions of causation and treatment. The first of these problems to which I would direct your attention is that of its *causation.*

We may dismiss at once all consideration of the direct syphilitic causation of the disease, as active syphilis is active by reason of producing inflammation; and since tabes is not primarily an inflammatory disease, it is therefore not a "gummatous" disease. The rarity of gumma in any portion of the body in tabes is such as to cast doubt upon the diagnosis of tabes where gumma exists.

This view, that tabes is, primarily, a non-inflammatory disease, was a long step in advance of the older views of its pathology, and has led to most radical changes in treatment, much to the benefit of the patient.

The next conception of its causation was *the toxin theory, viz.*, that the alleged microbe of syphilis left, as a result of its action on the tissues, an attenuated virus—milder and slower in action, not irritant enough to cause inflammation, but none the less persistent and effective in its destructive tendencies, by causing that slow molecular death we call degeneration. It is an open question, to my mind, whether the toxin theory is adequate, as applied not only to tabes but to similar degenerations of very chronic type.

The analogy with the effects of alcohol, lead, diphtheria, and other causes of peripheral neuritis is rather far-fetched, since in the latter the degenerative nervous effects are of acute, or at least subacute, type, as a rule; moreover, the resulting damage by these causes is repaired spontaneously in many cases, which cannot be affirmed of tabes. Again, this particular "specific" toxin theory (of a post-syphilitic toxin) leaves out of account the considerable proportion of tabetics who *have not had syphilis*—a proportion varying according to the statistics of different investigators from 3 per cent. (Dejerine) and 7½ per cent. (Erb), to 25 per cent. (Collins), 70 per cent. (Oppenheim), and 86 per cent. (Topinard), with numerous others ranging between these figures.[8]

Gowers,[9] who occupies a rather decided position on this question, states that in a few cases, "less than 10 per cent.," syphilis can be excluded with confidence. The significance of even this small proportion is, of course, that it compels us to recognize other sources than syphilis for the supposed toxin; in other words, to admit a variety of toxins, or other causes, in the etiology.

Before accepting any toxin theory as probable, would it not be well to take a broader survey of the problem and consider some of the other factors in causation? The homely saying that it requires two blades to make a scissors that will cut, is also expressed when we say that to produce a crop we must have both the soil and the seed.

As we have seen, the soil in a number of cases of tabes is *not necessarily* that prepared by the syphilitic microbe; it may exist *de novo* or be produced by other causes. What may these be? The first place I would assign to "the tabetic diathesis," in the sense of a hereditary or acquired vulnerability of the peripheral sensory neuron system. Given such a vulnerability any toxin, strain, or exhaustion in the general sensory sphere would be a competent cause for early degeneration. As Collins[10] puts it: "Anything that exhausts the peripheral sensory neurons and maintains the exhaustion, is a predisposing cause of tabes." This leads us then to consider the possible existence of

A TABETIC TYPE OF HUMANITY,

as a predisposing cause of the disease.

Those of us who see large numbers of tabetics can hardly fail to observe the marked similarity in build, temperament and nutritional defect, which is evident, according to my observation, in the great majority of these patients. So accustomed have I become to noting the peculiar "make-up" of this class of patients, that it is the *exceptions* to the rule which excite my attention; and these, according to my view, are a small minority which may be estimated perhaps at from ten to twenty per cent.

The "tabetic type" to my mind implies what is ordinarily called a "loose-jointed," non-compact physique, with little tendency to blood or flesh. He may be quick and skilful, even an athlete, under training, but the tendency to "go to pieces" in the areolar, osseous, muscular, and hemic, as well as in the sensory spheres, appears to exist. Early arterio-sclerosis is often a part of the clinical picture.

This mere suggestion of a "tabetic type" of humanity which may be recognized clinically, I leave as one of the problems to be solved possibly by your "collective observations," and analyses of your cases.

Now, it may be objected that these are merely *clinical* deductions and of little value, and yet they may have their bearing upon practical medicine. Given such a type of patient who acquires syphilis or other chronic toxemia, added to liability to over-fatigue and exposure, would it not be a wise precaution, having in view the probable greater liability to neuron degeneration, to advise precautionary measures respecting occupation, habits, and general nutrition, which would tend to prevent the development of that disease; just as we would advise similar prophylactic measures to the patient with the flat chest, clubbed fingers, thin skin, poor circulation, and adenopathy with a view to prevention of the tubercular dyscrasia. Two other facts stand out prominently with respect to the predisposing causes of tabes.

1. The rarity of tabes in the negro and lower races generally, notwithstanding the frequency of syphilis in many of these races.

2. Its rarity in women, and even in prostitutes, who are, of course, peculiarly exposed to syphilis.

These facts of themselves would suggest that other factors than syphilis must be preëminent. Looking at some of these other factors from a biological point of view, we obtain perhaps the best foundation for our pathological reasoning.

The evolution of mankind from a four-handed to a two-legged animal, and his assumption of the upright position, while evidence of superiority in the race, has been attended with corresponding weaknesses and difficulties, due apparently to the defective adjustment of organs to their new relations, such as those to which we attribute the frequency of hernia, for instance.

It is evident that in these gradually acquired changes of *posture,* there must not only be a topographical readjustment of organs, but along with it, of necessity, a redistribution of functional activities in the nervous system, consequent upon the upright position. The need for greater delicacy in equilibration entailed by the upright position and the lessened base of support must of necessity put a greater stress of function upon the muscle sense neurons of the lower extremities and trunk; and it is these neurons, it will be noted, that are the seat of the earliest degeneration in tabes.

Again, as man advances in civilization and refinement, he is very likely to limit his output of motor effort, while he cannot, and perhaps seldom desires to, lessen his sensory income. Hence, the sensory neurons are more liable to overloading, both from necessity and choice. This is true not only of the ordinary muscle-sense neurons, but likewise of those of some of the special senses—sight, for example. What frequent changes in adjustment, and enormous demands on endurance, must be necessitated in the light-reflex mechanism and the visual tract generally, by the conditions of existence in civilized man, and especially by the great and sudden variations in intensity of light to which these structures must respond, as compared with their requirements in a more primitive state. The actual prolongation of the day by artificial means and the consequent greater number of hours of light adjustment, is another weighty factor to consider.

But it would lead us too far to discuss the subject of causation fully. Enough has been said to suggest to us that there may be no necessity for any *special toxin* in this disease. One fact, however, that to my mind points most strongly to the inadequacy of the *specific* toxin theory is the well-known fact that in the cases with early *optic atrophy,* the disease elsewhere is often arrested in its further progress and these patients are apt to have a prolonged and, aside from the blindness, a comfortable existence.

As we cannot imagine any process by which optic atrophy may destroy a toxin which is supposed to flood the nervous system generally, the only rational explanation of arrest of the disease in these cases would seem to be that the vegetative existence led by such patients, by lessening the wear and tear of the nervous system in general, tends to check the degenerative tendency by its natural remedies—*rest* and *nutrition.* To sum up the leading factors in its causation, therefore, locomotor ataxia may be considered a disease of *civilization* usually; of *syphilization* frequently; of *over-sensitization* always. That it may be an expression of involutional changes in the sensory neuron system which are accelerated by the foregoing causes is quite possible.

The practical lesson for us, in the foregoing views as to causation is, it seems to me, that we would do well to dismiss the idea of something to actively combat, in the sense of a "devil to be cast out," a gumma to be absorbed, or a toxin to be "antitoxicated," and address ourselves vigorously to the obviously needed as well as rational procedures of *taking off functional pressure* and *feeding the neurons.* We cannot procure absorption of formed neuroglia tissue (sclerosis) and if we did we could not reproduce the decayed neurons. It does not follow, however, that treatment is of no benefit. The earlier the recognition of the disease and the more persistent the nutritional and hygienic measures, the better the prospect for arresting, or materially slowing, the progress of the disease. That tabes is quite compatible with prolonged life and comfort under proper management is attested by authorities of the highest standing.

I have said so much more than I had intended as to the problems of causation that I will be brief in referring to some of those of minor importance.

One of the most evident advances which has attended the adoption of the neuron doctrine has been the elucidation of various symptoms and anomalies in this disease, and in others, which were formerly inexplicable.

The tendency of neurons, when undergoing degeneration, to first manifest structural impairment at the extremities of their processes, has been so well attested in the case of polyneuritis, as to have almost attained the dignity of a pathological law.

As the tree with a worm at its root, or which is suffering from drouth, manifests its malnutritional state by first shedding its leaves, so in the exhausted or poisoned neuron *the ends die first,* and very naturally those ends of processes which traverse the longest distances from the trophic center—the neuron body—are the first to suffer in degenerative disease. Hence the early involvement of the "muscle spindles" representing the peripheral ends of the muscle-sense neurons, as shown by Batten,[11] and the probable coincident involvement of the "central" endings in the nuclei of Goll and Burdach of the oblongata, as postulated by Gowers (personal communication). Here we find, as elsewhere in the nervous system, that, with increase of knowledge, names and conceptions once considered fixed no longer apply. Tabes has been often referred to as an "ascending" degeneration, beginning in the lumbar cord and passing upward.

Applying the principles above noted, that chronic degenerations most probably begin at the extremities of the neuron, we must conceive the tabetic degeneration as beginning in the oblongata, and *descending* the posterior column as the process advances in severity. Actual histologic demonstration of the condition of the oblongata in early cases of tabes will throw much-needed light on this problem.

With respect to the peripheral process of the primary sensitive neuron, however, which has been functionally likened to a dendrite by reason of *conducting toward* the neuron body in the spinal ganglion, the degeneration as shown by Batten[11] probably ascends. In other words, as in the case of the tree, before cited, it is the terminal twigs and terminal rootlets that first manifest distress and finally destruction.

This proneness of actual degenerative changes to begin at the farther extremities of neuron processes, if demonstrated to be true by actual histologic evidence in early cases of tabes, will do much to solve some of the problems connected with the early course of the disease. The early involvement of the light reflex mechanism, for instance, and the occurrence of ptosis and transient ophthalmoplegias, have received a variety of explanations, none satisfactory, so far as I know, to the ophthalmologists. Yet, if we keep in view the degenerative change beginning in the upper cervical cord, and the well-known fact that degeneration in nerve-tissue, is compensated by a corresponding proliferation in the surrounding neuroglia; whether this be ordinary hyperplastic overgrowth, or irritative round-celled proliferation (excited by the presence of the dying neuron-ends), we have all the factors necessary for a solution of the problem of early involvement of optic structures. In other words, secondary to the degeneration in the cervical endings of the muscle-sense neurons, we have an infiltration causing pressure upon healthy structures, which, in the case of the dilator neuron fibers from the ciliary reflex centers, lie in close proximity to the posterior columns, and probably pass out with the posterior roots. It is quite conceivable, moreover, that in a number of cases this secondary infiltration may extend upward so as to cause temporary pressure sufficient to produce transient abolition of function in the sixth, fourth and third nuclei or in the posterior longitudinal bundle. Hence, the often temporary diplopias, etc. In certain cases, readjustment or absorption of the infiltration permits restoration of function, as in the "transient" ophthalmoplegias; in others, persistence or increase of new cell growth leads to actual disorganization in the ocular nuclei with permanent loss of function. It is possible that the same mode of production of optic atrophy itself may occur, *"trophic"* (?) structures being compressed in place of *"motor"* and sympathetic mechanisms.

"Tabes with preserved knee-jerks," or "high up tabes," as it is sometimes called, is often referred to as evidence of the "capriciousness" of the disease. If we view the matter in its neuronic aspect, however, we must admit the probability that *every case of tabes is, in its early period, a "tabes high up."* As the disease progresses, however, the *descending* (sic) degeneration in the muscle-sense tract, creeping slowly down the posterior axons with exacerbations and remissions, finally reaches the point in the lumbar cord where the "reflex collaterals" pass off to establish the knee-jerk circuit with the ventral-horn neurons. It is evident that these "reflex collaterals" may or may not be affected early. Their very proximity to their trophic centers favors their escape for a long time after the cervical ends are affected. Now, if the patient should happen to be one of those with "early optic atrophy," and the case become one of "arrested" tabes, what happens? The knee-jerk persists and the case is, or was, a puzzler. By the view here advocated, however, the problem is easily solved, and lost knee-jerks are no longer a necessary factor in the diagnosis of tabes.

Archard and Leopold-Levi[12] have reported six cases of tabes with preserved knee-jerks; one with autopsy, showing the escape of the "root-entrance" zones of Westphal in the lumbar cord. As this is near the region where the "reflex collaterals" are given off, it is probable that these also escaped. It is to be regretted that the condition of the axon endings in the oblongata are not recorded in this case. That many of the cases of tabes with preserved knee-jerks are developing cases is probable. I have watched such a case at intervals for two years, during which time delayed tact, defects of temperature and pain-sense in the legs, girdle anesthesia, gastric crisis and reflex iridoplegia were present, without ataxia of gait or station. Diagnoses of gall-stone, gastric ulcer, appendicitis, and malaria had been made. The knee-jerks gradually lessened and finally disappeared one at a time, with corresponding deepening of tone in the general clinical picture. And all this under sundry courses of iodides to which he was subjected.

Still another class of spinal cases with preserved knee-jerks are those with coincident degeneration in the pyramidal tracts. Cases really of "combined sclerosis," or, more properly, "*postero-lateral degeneration.*" When advanced, we have of course the plus knee-jerks, ankle clonus and rigidity to guide the diagnosis. Some cases exist, however, of probably limited involvement of the pyramidal tracts, where the persistent knee-jerks and lack of ankle clonus leave us in doubt as to the real condition of things. Here, fortunately, Babinski[13] has come to our rescue with his "*phénomène des orteils,*" which enables us to readily distinguish those with tabes alone, and those in which the pyramidal tract suffers. In other words, in testing for the plantar reflex, *flexion of the toes,* especially of the great toe, indicates intact pyramidal tracts; *extension* under the same condition is "pathognomonic" of pyramidal tract lesion. I have found this a valuable sign.

Leaving this perennial subject of tabes with these remarks on its problems, solved and unsolved, let me direct your attention for a few moments to another disease of similar pathological type, but affecting "*motor*" *neurons.* I refer to

PRIMARY LATERAL SCLEROSIS,

the very existence of which, as we all know, has been disputed by high authority. Dana, for instance, recognizes only the congenital form known as "Little's disease." The cases to which I refer in the following remarks, however, are the purely acquired form developing insidiously in patients beyond forty, with no pronounced onset or evidence of preceding spinal lesion, and with the spasticity presenting the characters of undoubted organic origin, with which we are all familiar, *viz.:* rigidity, plus knee-jerks, rectus and ankle clonus and Babinski's sign. As these cases are not common, have little tendency to shorten life, and usually die of some complication which diverts attention from the nervous system, autopsies are rare and histological demonstrations of the lesion few.

I have had under my personal care for prolonged periods three cases which clinically seemed to belong in this category, in one of which my diagnosis was confirmed by Wharton Sinkler and in another by Allen Starr. Personally I see no reason why a degeneration of the upper motor neuron should not exist, as an acquired condition, and it is a significant fact that of the three typical cases observed by me at length, all were in the persons of men who had seen military service, with the fatigues and exposure incident thereto. All were, moreover, well preserved in other respects, presented no tabetic symptoms as regards ocular or bodily sensations; and in the one who appeared to have some ataxia of station this was rather due to the excessive rigidity than to sensory defect, thus being motor in type and not tabetic. Two of the cases exhibited strongly marked "Babinski" sign. The third has not been tested for it. If we apply to the problem of the existence or non-existence of this disease, the laws of involution which apply elsewhere in the nervous system, and which our friends, the psychiatrists, have formulated with reference to mental phenomena, *viz.*, "late to develop, early to decay," we have a basis for postulating the existence of primary degeneration in the cerebral motor neuron. As is well known, it is the last of the motor tracts to myelinate, and consequently liable to fail in completeness of development, or in resistance to adverse influences. On this basis alone, however, this disease should be much more common than it is, and the reason it is not is possibly to be found in man's indisposition to exert the "motor neurons" already referred to.

It is a curious fact, as regards causation of this disease, and its alternative, progressive muscular atrophy, as well as its near associate or perhaps "complement," amyotrophic lateral sclerosis, that little stress is laid by authors generally upon syphilis or any "toxin" as a cause, and in the cases seen by me no evidence of syphilis was present. In this respect the prevailing views are in marked contrast with those regarding tabes. And yet in actual pathology they seem to possess much in common. Why attention should be concentrated on predisposition and function in the motor cases, and these important factors be practically ignored in the sensory degenerations is one of the anomalies of current medical thought for which it is difficult to account.

THE COMBINED SCLEROSIS.

A striking example of nervous disease of degenerative type is seen in the combined sclerosis of Lichtheim—Putnam-Dana type—accompanying pernicious anemia, and perhaps some other blood lesions or toxic states. A problem that naturally arises in this connection is, What is the relation between the blood state, the nervous lesions, and a possible third factor, the toxin? Are the degenerations in the cord due purely to the blood state, or are they both due to a common toxin? If we adopt the toxin hypothesis we must assume a poison which affects both blood cells and neurons in some cases and blood corpuscles only in others. A third possibility to bear in mind is that both may be the expression of *involutional* changes, *i. e.,* congenital tendency to early death in the blood cells and blood-producing organs as well as the neurons. They would then be comparable with the myopathies. Finally, the neuron changes may be purely secondary and due to malnutrition only. This latter seems the more plausible explanation, if for no other reason than that the nerve-degeneration never occurs first, but usually follows, after a considerable interval, the blood lesion. Two significant facts in this connection which bear upon the production of both tabes and lateral sclerosis are: (1) It is the long fiber tracts which are earliest and most severely affected; (2) the degeneration often (always, in my experience) spares the knee-jerk collaterals, the tendon reflexes being usually exaggerated. Babinski's sign was present in one case recently observed by me.

It is evident, therefore, that the short "reflex collaterals," nearer as they are to the neuron bodies, escape degeneration for a long time after the main axon is involved. The absence of marked cortical changes in the Rolandic area in cases of pyramidal tract degeneration may bear a similar interpretation. As bearing upon the question already raised of early involutional tendencies, as a factor of importance in these cases of nervous degeneration following blood lesions, I may cite the case of a lady of 38 who consulted me for obscure nervous symptoms, and in whom I found the spleen extending downward to the ilium and laterally to the right of the umbilicus. A blood examination by my associate, Dr. W. E. Schenck, revealed a typical spleno-myelogenous leucemia, with one white to six or eight red corpuscles. A careful examination of the nervous functions revealed no organic changes nor even functional alterations of much importance, and yet, according to the history, this profound blood impairment must have existed for many months. Such cases cannot fail to impress the fact that individual variations in the vulnerability of neurons to disease influences are quite as marked as the similar variations in functional potentiality.

Finally, in the attempts which I have here made to formulate a few of the problems which arise in the course of our daily work, two propositions seem to demand recognition.

First, that the most important problems we have to solve are those connected with the individual differences in patients and their environments.

Secondly, since it is mainly through neurons that these differences are manifested, both in a psychic and somatic sense, in the expression and elucidation of symptoms as well as in the actions of remedies, the solution of the corresponding problems rests largely with the neurologist and psychiatrist. In the language of my illustrious teacher, Sir William Gowers, "While it is proper that the neurologist should be a specialist, he can never be an exclusivist."

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DISCUSSION.

Dr. Onuf thanked the reader for the pleasure of hearing his paper, from which he had learned a great deal. One of the points which impressed him was the ingeniousness of the idea put forth, especially that accounting for the change in position from that of quadrupeds to the upright position of man. The upright gait and posture in its exact relation to the equilibrium sense in which, while we find cases of slight dynamic ataxia, we find marked cases of static ataxia distinct and not reversible, namely, ataxia and no equilibrium, which we ascertain for ourselves by enquiry. While in locomotor ataxia we accept the infection of syphilis, we seldom do in cases of spastic spinal palsies, there being many other causes than syphilis to look for for a basis of this disease. The paper would be a fruitful source of mental pabulum for some time to come.

Dr. Brush felt under obligations to the reader of the paper for the favor of hearing it, and, as Dr. Onuf said, it would be food for thought for some time to come. He thought the reader had hit the nail on the head in developing his pathology on the basis of the neuron theory, which makes all things new of old types and varieties. Take the cases shown by Dr. Haynes to-night: While they would be given no exact name, yet on this theory they were easily explainable. The problem of locomotor ataxia is an exasperating one, as described in the text-books, where one finds lots of causes, cases of no cause, and cases of causes and not the disease, and therefore exasperating. In treatment he had found iodide of potash not only of no value, but of positive harm. In the Kings County Hospital, where they received practically no medical treatment, yet they did not advance, but from the rest, remain quiescent.

The President expressed the thanks and appreciation of the Society for the pleasure and profit they had experienced in hearing the paper read.

ABDOMINAL SECTION: SOME POINTS IN THE MANAGEMENT OF DIFFICULT CASES.

BY L. GRANT BALDWIN, M.D.,

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It is not my intention to ask your consideration to a review of the modern technic of abdominal surgery, nor yet to discuss any new or original procedures, but rather to invite your attention to a few points believed by the writer from his experience to be of value in promoting a smooth recovery and lessening the mortality after abdominal section for conditions of rather more than the average severity. Emergency cases are not included, although some points to be mentioned are equally applicable to them.

If possible a week should be given to the preparation of a patient for a serious abdominal operation. The heart, lungs and kidneys should be carefully examined and if any lesion is found it should be treated as far as possible. The care of the skin is important. To this end hot baths should be given daily, to be followed by a vigorous massage. My preference would be to have the patient rest in bed for at least most of the time for a week prior to an operation. The management of the bowels before an operation should be begun on the third day before the operation. My preference is to give one large dose of calomel, to be followed by some bitter water or other saline, and the day previous to the operation a moderately full dose of castor oil in capsules. Licorice powder or Epsom salts may be substituted if the calomel or castor oil is contraindicated. On the day of the operation no laxative should be given, the final preparation being a large soapsuds enema several hours before the time for taking the anesthetic. The diet should be carefully regulated according to the requirements of each individual case. Large quantities of some sterile water will be found valuable in flushing the kidneys and ridding the system of the antecedents of uric acid. To this end moderate doses of salicylate of soda and lithia will be of service when not contraindicated.

The giving of milk, soups, or other fluids less than four hours before the time for the operation is unwise.

Preparation of the Abdomen.—It is conceded by all investigators of the present time that it is impossible to sterilize the abdominal walls. Accepting this as a fact, I have some time since given up the elaborate, prolonged and what seems to me unnecessary scrubbing of the abdomen that is laid down as necessary in many of our text-books. If we cannot render the abdominal walls sterile, then why remove the epidermis by so severe a scrubbing? To my mind by so doing we simply produce a good culture field and invite infection. My preference is also to have the case come to the operating table with no need for further cleansing, a final washing with alcohol or ether being sufficient.

My chief reason for this is the avoidance of exposure and the general wetting of the patient, as well as a saving of time of the anesthetic. The patient should be clothed from head to foot in flannel or some other suitable substitute.

The time of day for an operation is important. Except on account of the surgeon's time, nothing can be said against the early morning hours, say from seven to ten o'clock. The advantages of these hours are patent to all. The patients' resisting powers are at their best; they are fresh from a night's sleep, if sleep has been had; the stomach is empty, and the hunger is not felt to the same extent as where the afternoon hours are chosen. Again, the surgeon is better able to do good work at this time of day than later, when suffering from the fatigue of other work; and last, but by no means least in hospital work, we certainly get the best services of nurses and other hospital attendants at this time.

In a critical abdominal case the selection of the anesthetic is important. As a general proposition ether will be the one selected, but much will depend upon the individual preference of the operator. A word may be said in regard to the method of giving ether. The open, slow method should always be adopted, and to this end no inhaler has been brought forward which excels or in my opinion equals the old Allis inhaler strung loosely with a gauze bandage. By "strung loosely" I mean to such an extent that light and air are readily admitted through the folds. By this method cyanosis and suffocation are impossible with any ordinary care, and a smaller amount of ether is required, 100 grams per hour being the average amount required in non-alcoholic cases, and the patient will recover much more quickly. There is no doubt in my mind but many cases die from too much ether when the cause of death is put down to shock from the operation. It has been my custom for a long time, in all cases in which ether is to be given, to administer hypodermically, fifteen minutes previously, morphine and atropine. The dose is usually from one-sixth to one-fourth of a grain of the former and one one-hundred-and-twentieth to one one-hundred-and-fiftieth of a grain of the latter. Who was the originator of this procedure I am totally unaware; certainly it is an old and very valuable aid to ether anesthesia. Its value is, first, to lessen the amount of ether required for complete anesthesia, and, secondly, the almost complete freedom from mucus in the throat and bronchial tubes that it secures during its administration. I am also confident that nausea and vomiting following the administration of ether are very much lessened by it, on account, first, of the smaller amount of ether required, and, second, the effect of the drugs *per se.* In some difficult cases a rectal injection of normal salt solution before the incision is begun will be of value.

Incision.—Personally I prefer to the right or left of the median line, whichever may be most expedient in the case in hand. It is the custom at the present time to disregard the length of the abdominal incision. To my mind this is an error. Whereas, I would not advocate working through an incision the length of which interfered in any way with the operator, I would encourage making as small an incision as possible. I may be permitted to say one word about the closing of the abdomen, and that is: I cannot feel that by any method the abdomen is securely closed without the use of through-and-through sutures of some material. I prefer silkworm gut. I would not, however, enter into a discussion of the technic of closing the abdominal wall.

The Care of the Intestines.—It will be acknowledged by all that the less the intestines are manipulated the smoother will be the recovery of our patients. To avoid this there are several points which I think will bear discussion. How often have we seen the abdomen cut from symphysis to umbilicus, or even further, and then the cavity filled up with yards upon yards of iodoform gauze to keep the intestines within the cavity, leaving the operator no more room than he would have had with a three and a half inch incision without the packing, and many times much shorter. It is my practice to use as little gauze within the abdomen as possible, believing, as I do, that by gauze packed against the intestines and allowed to remain for from half an hour to an hour, irreparable injury may be done to their peritoneal covering, so increasing the chances of infection and lessening the resisting power of the peritoneum; for it will scarcely be argued that any abdominal section was ever done without a chance for more or less infection, it being in any particular case simply a matter of dosage, and if the peritoneal covering of the intestine is not injured it will take care of a larger dose than where it is injured.

We frequently hear the remark that the abscess cavity was thoroughly walled off. I do not believe that with any amount of gauze packing a water-tight or pus-tight cavity can be made in the abdominal cavity. We may to a certain extent keep the intestines out of the way by gauze packing, but I do not believe that the pus can be prevented from spreading to any practical extent by its use. For my part, I have given up any attempt at walling off uninfected parts of the abdomen with gauze, my feeling being that the amount of manipulation and irritation from the gauze does more harm than the protection it affords does good. I rarely use more than one piece of gauze or sponge at one time, and that to keep the intestines out of harm's way from manipulation. By this means—that is, allowing but one piece of gauze or sponge to enter the abdomen at once, and when a second is required, the first one being always removed—there is no possibility of either gauze or sponges being sewed up in the abdomen.

The next important point in the care of the intestine is the cleansing of the abdominal cavity. So far as my observation goes in witnessing operations in different hospitals in this city, the favorite method is to pour in large quantities of salt solution or other sterile fluid from a pitcher held at various heights above the abdomen. This is not the best way of cleansing the abdominal cavity, as it will be impossible by this method to wash out clots and other infected material situated deep down in the pelvis and among the coils of the intestine. A better and the only satisfactory and thorough way to wash out the pelvic and abdominal cavities is by means of a large funnel with rubber tube attached, the tube to be passed completely to the bottom of the pelvis before allowing the water to run, thus causing an upward current instead of one in the opposite direction, and so floating out all débris from the bottom of the cavity. This should be done thoroughly, the tube should be carried among the intestines, at the bottom of the pelvis, in the lower abdomen, in front of the bladder, and, in fact, in every part of the abdomen that can be reached, and in that way the cleansing can be rendered almost perfect. Having been satisfied that the washing is complete, the funnel should be lowered and any residual water siphoned off. The tube can be left in place at the bottom of the pelvis and the abdomen partly closed around it. Before final closing, the abdomen can then be filled with fresh salt solution, the patient being slightly in the Trendelenburg position, and thereby float the intestines out of the pelvis. This will also afford an index as to the perfect control of hemorrhage, by means of separating the wound around the tube by a pair of forceps or other instrument and allowing some of the water to escape. Various antiseptic solutions have been used to wash out the abdomen, as Thiersch's, weak solutions of bichloride of mercury, peroxide of hydrogen, and kindred solutions. These are no doubt valuable in certain cases, but I have never had occasion to employ them. The amount of salt water to be left in the abdomen will, of course, vary in different cases, and has very beneficial effects otherwise than keeping the intestines out of the pelvis and preventing adhesions.

Of course, it is understood that all raw surfaces will be covered with healthy peritoneum as far as may be possible. For suture material within the abdomen I invariably use catgut. I am aware that many consider it safe to use only such gut as has been prepared under their immediate supervision. This opinion I do not share. Commercial houses whose reputation and very existence depend upon the production of thoroughly reliable and aseptic goods can outclass the physician in the preparation of surgical dressings.

The voidance of all foreign material to be left in the abdomen is to be urged. To this end Dr. Skene's electric hemostatic forceps furnish us an easy, safe, and secure means, when possible to use them. In managing old organized adhesions and in checking bleeding from surfaces divested of peritoneum they are invaluable. The angiotribe is highly commended, but with it I have had no experience.

In separating intestinal adhesions, in first gaining an entrance into the pelvis, care should be taken to seek for the lowest point of cleavage rather than to break through the omentum or between coils of intestine, thereby greatly lessening the danger of injury to the intestines or other viscera.

The matter of drainage will of course depend upon the individual case. We are all, without doubt, each year draining fewer and fewer of our severe cases. This is accounted for by a more perfect technique and complete operative procedure. When drainage is necessary I still prefer to drain through the abdominal incision rather than through the vagina, and find the gauze column the best for material.

Clarke's position is universally employed for the first forty-eight hours, the advantages being to retain the intestines in the abdominal cavity and out of the pelvis by force of gravity and also to favor the retention of the saline enemas.

The After Care.—Before being removed from the table every case is given an enema consisting of one quart of normal salt solution, one ounce of whisky and from ten to fifteen minims of Squibb's compound solution of opium. These enemas are repeated every two or three hours for the first twenty-four or thirty-six hours after the operation, with or without the opium, according to indication. Where the ether has been given according to the method indicated and has been preceded by a hypodermic injection of morphine and atropine, nausea and vomiting are not frequent. Sterile water, hot or cold, is given by the mouth as soon as the patient can swallow, the amount given to be governed by its retention or rejection. If vomiting is persistent, much relief is oftentimes obtained by giving large drafts of hot water, the act of vomiting being less distressing if the stomach has something in it to eject. Certain it is that the sooner our patient can take plenty of fluid the more comfortable will she be.

The Diet.—After the first twenty-four hours acidulated milk as prepared after the formula of Dr. H. A. Bunker has the preference from my experience, it being retained and digested much more easily than ordinary *peptonized* milk.

The movement of the bowels, both as to time and means of accomplishment, is perhaps open to more discussion than any other one subject. We are all familiar with cases terminating fatally from delay alone independent of any other complications, that is, where no peritonitis or sepsis exists. The old method of allowing the bowels to remain unmoved until the third or fifth day has been abandoned by me entirely. The advantages of an early movement are: first, to prevent adhesions; second, the elimination of sepsis; and, third, the comfort of the patient. It has been my custom for some time, in all cases where I had reason to fear difficulty in securing an action of the bowels after an operation, to have administered just prior to the anesthetic from one to two ounces of Epsom salts dissolved in hot water. This has several advantages. It helps to secure an early action of the bowels and also increases the activity of the kidneys and when given just as the ether cone is put over the face, are seldom vomited. Just how I came to adopt this measure, I cannot say. Twelve hours or even earlier after the operation ten to fifteen grains of calomel are given in a capsule. Calomel in small triturates or powders is more apt to upset the stomach and does not act as quickly. The calomel is followed about six hours later by teaspoonful doses of Epsom salts dissolved in hot water, given regardless of nausea or vomiting, if the case is an extreme one. I have seen many times a dose of hot salts retained when the stomach has been rejecting teaspoonful doses of champagne.

At the first evidence of distention of the large intestine, even though it be but a few hours after the operation, high enemas are commenced and not discontinued until gaseous or fecal movements have been secured. By this method I am sure I have saved a severe class of pus cases that used to die.

Dr. Henry T. Byford of Chicago has laid great stress upon the point that we should not feel satisfied with the passing of gas immediately after the giving of an enema, as at that time it will usually be due to air inserted with the enema, but rather that the stimulating enemas must be continued until gas passes independently and between the enemas. The stimulating enemas may be composed of many and varied ingredients. Personally I prefer one composed of Epsom salts and glycerine. After this the bowels are moved every day either by enema or medication by the stomach. The shock, if any exists, can best be combated by external methods in the shape of hot bottles or bags placed outside of warm blankets in which the patient is wrapped before leaving the operating-table. The judicious and careful use of morphia is our most valuable drug in its treatment, but great care must be used not to give too much. Strychnia, spartein and whiskey all have their place. The submammary injection of normal salt solution where indicated will prove of benefit, chiefly where the rectum is not retentive. A pint may be injected under each breast, causing but little or no pain, and will be all absorbed in from ten to twenty minutes. I have not recently found it necessary to administer it by the vein.

DISCUSSION.

Dr. A. J. C. Skene: Mr. President—The paper, contrasted with most contributions on this subject, tells very greatly in favor of Dr. Baldwin as a practical and successful worker, as I know him to be. You know, sir, that the vast majority of the papers that we have had on this subject in the past have simply been long histories of very complicated cases that have been saved by the special operators, who usually take care to give us no hint as to how they attained their wonderful success. Now, while that kind of literature of abdominal surgery may be exceedingly fascinating for our country cousins and those who are not interested practically in this line of work, to those who are engaged in surgery, such personal laudations are simply wearisome, confusing embarrassments. The doctor in his paper has touched all the tender points of this subject. I say tender, because they are the points which the operating surgeon has to handle with care and always (if he is like the author of the paper, conscientious and progressive) accompanied with a feeling that better surgery might be done.

So far as the preparation of the patient is discussed by the doctor, I am entirely in accord with him except in one minor point, and that is that I would prefer to have the alimentary canal not only emptied, in the way that he does, but have it permitted to be quite quiescent for hours before the time of the operation; and so I would omit giving anything in the way of nourishment or anything in the form of a laxative or enema for ten to twelve hours before the time of operating.

There is certainly nothing more important than the preparation of the patient. In fact, in abdominal surgery success depends upon the therapeutics of preparation, skill in operating, and the after care. Those are the three principal points which we have to look out for, and I do not believe the doctor's method could be improved upon, unless the minor item I have referred to might be an improvement.

With reference to the preparation of the abdomen, I entirely agree with him that it is impossible to make sure that the abdominal wall has been rendered thoroughly aseptic or that all of the germs that have lodgment there have been destroyed with any amount of scrubbing. It is always embarrassing to do a great amount of washing and scrubbing immediately before operating after the patient is anesthetized. I am quite sure that the doctor will obtain just as good results by the method he has given as one would by the more elaborate scrubbing and preparation.

It is a fact that any germs that may find lodgment in the integument and deep down in the wall of the abdomen will not be liberated to any great extent if the incision is made with the dexterity, skill and accuracy with which the expert operator can do it. Few, if any, of the bacteria would be liberated by that clean incision which goes directly from without down to the peritoneum and through it.

With reference to the incision. Of course I think there can hardly be two opinions with reference to the advantage of a small incision, not only in protecting the intestines, but in guarding against future trouble in the way of hernia and in lessening the time of closing the abdominal wound. I am not sure that the doctor dwelt upon the great advantages in the accuracy with which the incision is made, so that the two edges of the wound will fit. Any one who fails to make a proper incision is likely to do a great deal of damage to the tissues and the union will not be so complete, no matter what method of closure is adopted. I think a great deal depends upon that—the accuracy of the incision.

I am not sure that the doctor referred to the method of closing the wound. Whether he did or not, I may be permitted to make this remark, that there are so many ways of closing the abdominal wound that one can hardly in one lifetime try them all sufficiently often to know which is best. I have watched with great interest those who have closed the wound in layers by means of the buried suture, and I am perfectly confident that no better results, if as good, are obtained by that elaborate method of closure than we obtain by the through and through suture properly applied and in sufficient number, and I am very glad to find from recent contributions from Europe that they are coming back to the single interrupted suture, through and through suture, and giving up the suturing of the various layers.

The next thing in his paper was the care of the intestines. I have never heard anything on that subject of more interest to me, and I shall profit by his method of protecting the intestines from injury while operating. What he has said about the difficulties of walling off pus by means of the gauze is, I think, entirely correct and according to the experience of all those who have had much to do with those cases. The keeping of the intestines out of the way with one single piece of gauze I think is most admirable, not only for the protection of the intestine, but for the protection of the patient against the leaving of sponges or gauze in the abdomen. It is perfectly marvelous how many times gauze and sponges have been left in the abdomen. All this danger is avoided by Dr. Baldwin's method.

His method of dealing with adhesions, of course, is all that is known on the subject at the present day, I believe. Of course, we all know that the more thoroughly we can free our patients from raw surfaces by closing in raw surfaces left after the separation of adhesions, the more perfect will be the recovery.

That is a practical point which he has given us with reference to cleansing the abdominal cavity which is of vast value. When washing out the peritoneal cavity was necessary I adopted the method which he has referred to, of pouring water into the abdominal cavity, and I have nearly always found that all I accomplished by it was to distribute the septic material and blood-clots throughout the entire abdominal cavity, washing out very few, if any, of them, and so for a long time I have avoided this washing out whenever it was possible, relying upon careful and gentle sponging, believing that I could leave the cavity cleaner and better and the patient safer by the sponging than this washing. With the doctor's method I am quite confident that thorough cleansing can be accomplished. His method of siphoning off the contaminated fluid is most admirable. I have more recently adopted the method of emptying the cavity of ascitic fluid or of a solution that has been introduced by using a tube perforated with fine perforations at the end of it and hitching it on to a large aspirating syringe or pump and pumping it out, but by the siphon process I have no doubt he can as quickly and as thoroughly do the same thing.

Next comes drainage. Drainage of course is always an acknowledgment that we have not done all that we hoped to do in the way of closing all bleeding vessels and oozing surfaces; in other words, making our operation as complete as it is necessary or possible to do, and yet at the present time there are cases where it is judicious and necessary to drain, and I still hold to the older method of draining through the abdominal wound rather than by making an extra wound in the vagina and so exposing the patient to another source of septic absorption. I believe that is the doctor's method.

I am inclined to think, from what I have seen of his practice, that he prefers the gauze drain. Without being positive that there is any advantage in it I still hold to the use of the old perforated glass tube as being the least likely to become septic and as answering every purpose.

I entirely agree with him that the morning is the time to operate. First, because it is always safer to anesthetize a patient whose stomach is completely empty, and if no food is given from the previous evening the chances are the stomach will be in good condition for an anesthetic early in the morning. Then, as the doctor remarked, the vital forces are at the best; the patient is in the best condition. It has been my habit, whenever it was possible, to operate in the morning, and for these reasons, and in order to carry that out a little more rigidly than he does, I would propose—indeed, I never have given any nourishment or any medicine by the stomach immediately before the using of the anesthetic. Then I presume that ether is still the most acceptable anesthetic in this country, although for the last two or three years I have relied entirely upon Schleich's mixture given by Dr. Erdmann, and had results entirely satisfactory in the majority of cases. Occasionally a patient does better with ether, but I am thoroughly in accord with the doctor in that ether is the anesthetic, but I am not sure that I can endorse his giving opium or morphia hypodermically immediately before the anesthetic. I know that has been practised by some of the best men, for example, Dr. Reeve of Dayton, O., who used more than any other man the A. C. E. mixture, and his results were very good. I have always been opposed to opium before giving an anesthetic, and shall continue perhaps to be opposed to it in spite of the fact that I have before me Dr. Baldwin's success and the success of other experts in operating. My reason for that is this: I would be perfectly willing to employ it if I knew my patient was tolerant of opium, but you know there are a great many patients to whom a dose of morphia is about equal to an attack of grippe or pneumonia, and it is a dangerous thing to give them a dose of opium under any condition or circumstances. You cannot always tell your patient's idiosyncrasy in that respect, and if you happen to give a dose of opium before an anesthetic to a patient who is very intolerant of that drug, I think you take an extraordinary risk. So in order to be sure and safe from the few that are intolerant of the drug I would be inclined to omit it in all cases except those whom I knew to be quite tolerant. The giving of another hypodermic immediately after the operation is and has been the practice and habit in the early days of abdominal surgery by some of the most successful operators, and it is still pursued by many. This use of opium after operating, and before too, was largely driven out of sight because of Tait. He would never give opium under any circumstances or conditions, and while he was, as you all know, a most extraordinary man, he was so great and so impressive that the great majority of his followers not only took his wise directions and followed his superior practice, but they felt in duty bound to gather in all of his cranky, ridiculous notions. I have always believed his opposition to opium in surgery was simply a whim, just as his everlasting condemnation of aseptic surgery and his never-ending torment of Lord Lister for what he called ridiculous nonsense. So I think opium has been abused by omitting it, and we are very liable to abuse it by using it. My own preference would be to wait and see. If the patient is not suffering from shock and does not have pain, I see no reason why as a routine practice we should give every patient opium after operating, hypodermically or any other way. It is true—and the doctor has a strong point in his favor here—that in those bad cases where there is liability to shock there is certainly nothing more likely to relieve than opium. I believe that is the best stimulant we have under these circumstances, and when there is shock and you are sure your patient is tolerant of opium, then it is good; but as a routine practice I would be opposed to it, at least I have been, and with all the persuasive ways of Dr. Baldwin I still shall be obliged to hold on to my old way to some degree.

I come now to his after treatment. Here we come to something that is rather too new to most of us to be able to speak very positively. Of course his use of the saline enemata, as well as his leaving a quantity of fluid in the pelvic cavity to favor what is very important, the absorption of any septic material that may be there, is good surgery. I believe we all agree now that from septic material that is left in the abdominal cavity, if it is promptly absorbed, all of it, the patient is safe, because most organizations can take care of a good deal of sepsis by elimination, whereas, if it is left in the cavity and not absorbed, it multiplies so rapidly that it is overwhelming. The leaving of a certain amount of saline solution in the pelvic cavity, as recommended by Dr. Baldwin, has the double advantage of floating the intestines out of the cavity and so enabling them to perform their functions more easily, and to avoid adhesions if there are any surfaces inviting adhesions; and then it has the advantage of protecting the patient to a certain extent from sepsis; so that is a most valuable point. Then the giving of a saline per rectum immediately after operation, both for relieving the thirst that will surely come, and as a means of overcoming shock, etc., I believe is most excellent practice.

The matter of diet sometimes rests a little with the patients' condition and peculiarities. I think it is just as well to allow the stomach to remain perfectly quiet as to tempt it with nourishment when it is not in a condition to digest food.

The method of acting upon the bowels given in the paper is original and important. We have the authority of Dr. Baldwin and Dr. Byford and one or two others for the use of saline laxatives immediately after operating. In fact, the doctor gives his before. Now that in the hands of those gentlemen who have employed that method, has been of great value, and I have no doubt the doctor is perfectly correct when he says that he has saved some of those bad pus-cases that he formerly would have lost. But it may not be too much to say that it is yet a little too young a method for us to accept without qualification. It takes a great many swallows to make a surgical summer, although the results so far have been excellent and I certainly shall put the method in practice the first chance I get, I still will wait for further returns, and I have no doubt they will be entirely satisfactory when they come. This is the only point in the whole paper that I have been unable to accept at once and without the slightest hesitation, and I shall simply reserve judgment on that until I know more about it.

I can see a great advantage in the use of enemata as has been suggested; not to be satisfied with partial results, but to persist in their use until the desired results are obtained. Now, if by means of the immediate use of saline laxatives, and the use of the enemata and their repetition we can save those obstinate cases that have given us in the past so much trouble, I shall look upon this as a great step in advance, and I am prejudiced in favor of the methods because of the source from which they come.

Finally the question of shock, the treatment of shock, which the doctor left, I think, to the end, and dwelt but a moment upon. I take exception to what he said about the use of the hot-water bottles or bags surrounding the patient, for the reason that I have seen so many patients severely burned. You will say, because blunders are made by carelessness, that is no reason why one should condemn an excellent method or an excellent art of any kind in the therapeutic line, but I believe you can overcome shock far better by applying heat to the head.

You may remember, Mr. President, in times past, when we had so much sepsis in our abdominal surgery, that we tried to reduce the temperature by the ice-pack, and indeed it is used today for the same purpose. And then another shrewd and most successful abdominal surgeon thought he would go to the heatgenerating centers and apply cold to the head to reduce the temperature from sepsis, and he was far more successful in his treatment than in the local application. The same thing obtains, I am sure, in the use of heat as an agent for overcoming shock. While I believe in having the bed as warm as it can be made before the patient is returned to it, I always direct the heat shall be applied, and watched with the greatest possible care, to the head, and a large quantity of blanket or flannel between the head and the hot-water bag; but I keep it there until reaction is established, and then get free from the danger of the application of the heat to the extremities and other parts of the body.

Walter B. Chase: Mr. President and Members of the Society: I am sure we have all been instructed in the careful, thoughtful, and scientific paper of Dr. Baldwin, and that we shall carry away with us much food for reflection and suggestions which will be of value to us in our practical work.

It seems to me, Mr. Chairman, that Dr. Baldwin has very rightfully made special reference to the question of the preparation of the patient for so serious an operation. It matters not, I take it, how great the skill of the operator, how exact his knowledge of anatomy, whether it is normal or pathological, or how perfect his technic; if he has failed in putting his patient in the best possible condition for operation, failure may follow, and therefore he takes time by the forelock in proper preparation of the patient, and does the best he can that his patient shall survive so serious an ordeal. Too much attention cannot be paid to this matter. It may be and it is oftentimes possible in the period of a week to do all which may be required to put a patient in the best possible condition, and yet under other conditions it may require a very much longer period—say, weeks or months. It is worth while to inquire into the habits and the former health of the patient; to know, if we can ascertain it, what the powers of resistance of the patient are under unfavorable circumstances; has the patient ever before submitted to a serious surgical operation; or survived a very severe illness—and when we have determined these things we may be able to arrive at a rational conclusion whether in a given case we ought to operate.

The writer alluded to the question of the secretion of the kidneys and their activity, and if I make suggestions going further, it is not with the belief that he would not carry out the same suggestions. The routine method of ascertaining the fact that the patient's kidneys are doing their duty properly by simply excluding the presence of albumin, is erroneous and faulty. The only safe test of the renal organs is to make a thorough and careful quantitative and qualitative analysis, if time permits, in every case, not from a single specimen of urine, but from the specimen of a day, or better still, if the urine were measured carefully and accurately for two successive days and on the third measured and a specimen of that urine taken and submitted to a thorough chemical analysis. Then the question would be decided whether or not the excretion is up to the standard, and it is a question not so much of the presence of albumin but of urea and other poisons in the system. The pathologist tells us that ptomains are taken up from the intestinal tract and carried into the circulation and excreted through the kidneys, and by carefully examining the urine we can determine in advance whether these elements are present or absent.

Then again, the question of the heart and circulation and excretions generally. The doctor alluded to the fact that we ought to know whether our patients are lithemic, and the method he would apply to these cases is rational and correct.

Now, the doctor has made some suggestions regarding the specific treatment of these cases. He has referred also to the bowels, and I agree entirely that the bowels should receive special attention, and I am inclined to believe with Dr. Skene that it is better after they are thoroughly emptied by the normal method there should be a period of quiescence of not less than twelve or sixteen hours before operation.

Again, the question of the time of feeding the patient before operation is of a great deal of importance. For myself, I am not willing that the patient should have any food in the alimentary canal, and that which above all things I would exclude is milk. Decomposition in the alimentary canal of imperfectly digested curds and the production of gas after operation is too serious a matter to take any risks with, and I would exclude that entirely in the diet of the patient for a day or two at least before the operation.

As regards the time of operation, I think Dr. Baldwin is entirely right, and if the surgeon follows that method of operating in the morning he will have no reason to regret it.

There is one other condition I have not seen mentioned often, but it is one of a great deal of importance. It is a common experience of all engaged in abdominal surgery that the cause of the rise of temperature after operation is sometimes a matter of doubt. Is it due to shock, to the disturbance of the nervous system? Is it due to sepsis, or peritonitis? And another question that has forced itself on the attention of many of us is, Is it due to malaria. Now, the hint I woud give is this: If our patients have come from a malarial region particular care should be taken to ascertain if they have had malaria and had a recent attack. I had an experience last year, where I operated on a patient from the South for the removal of an axillary growth, and I very nearly lost her after the operation from a severe attack of malaria. I should have inquired and given her a course of anti-malarial treatment. In a recent case of appendicitis, in which the acute symptoms had disappeared, while waiting for the operation there was an attack of fever ushered in with a chill and the temperature running to 105½° or 106°, the question was whether it was due to the absorption of pus, or malaria. A careful study of the history of the case impressed on my mind the belief of its being malaria, and the subsequent history of the case proved it.

Now, there is one element, and that is time, which Dr. Baldwin referred to, and which is one of the greatest importance. It must be painful to every surgeon who has visited a hospital and witnessed private operations to see what an amount of time is absolutely wasted between the time the anesthesia is reached and the time the operation begins. I have seen patients that have been allowed to lie ten or fifteen minutes because everything was not in readiness. That, however, does not apply to Dr. Baldwin's operations. Proper protection of the patient from cutaneous exposure to the atmosphere should be afforded.

Now, regarding the question of the selection of an anesthetic. Doubtless ether is most often the better anesthetic and safer, and yet some distinction must be made. Certainly in some septic conditions ether is alone indicated, but there are other conditions in which the cardiac function is disturbed and chloroform is indicated and has one advantage over ether which is sometimes of a great deal of importance: that it is far less likely to produce nausea afterward than ether, and we know the injury done to the patient by the vomiting often induced by the ether narcosis.

As regards the propriety of the administration of morphia prior to operation, I must take issue with Dr. Baldwin. It works well, no doubt, in his practice, and will work well in many cases very likely if we know our patient is tolerant of opium; but in some of the most persistent cases of vomiting occurring after abdominal section it is difficult to tell whether it is due to the anesthetic or to morphia, but if we administer no morphia we will not then be in doubt as to the premises. Another objection to it is that it interferes with peristalsis, and in my experience there is no one thing of which my patients complain so much after an abdominal incision, as flatulence, and that, I think, ought to be sufficient reason why we should not employ this drug. If for other purposes it is needful to give an anodyne prior to the operation, or succeeding the operation, I should much prefer the use of codeia hypodermically.

Now, regarding the further preparation of the patient, I think if the muscular structures of the body are weakened and the heart is weak, that the use of strychnia for three of four days or even a week before operation is of a good deal of value in fortifying the nervous and muscular systems against the influence of shock and debility which must attend every poor operative procedure.

There are so many points which this paper has brought up that, owing to the lateness of the hour, I will not touch upon them.

The question of ligatures is one of such importance that it should not be passed over too lightly, and I advocate and am in sympathy with the method of Dr. Baldwin. It is not many years since we have heard advocated on this floor in the meetings of our society the use of ligatures in the abdominal cavity which were not absorbable. I believe they are becoming a thing of the past, and I know in my experience that for many years, with a single exception, I have not used anything but catgut, and have had no reason to regret it. I think that ligatures which may be absorbed in a reasonably short period of time fulfil every indication, and that we may believe, after the operation is over, they have been absorbed is a source of satisfaction, because the mischief which has been wrought in medicine and the prejudice which has come to abdominal surgery from the number of cases in which the sinus followed were such that the laity and the profession also have been unduly prejudiced against laparotomy. It was not many months ago that I happened to listen to a conversation between two eminent surgeons in an adjoining city, and one was very jubilant over the fact that he had discovered a method by which a hook which he had devised could be forced down through these sinuses and pull out the silk ligatures which were responsible for the trouble, never for a moment thinking he might have avoided them altogether.

There are one or two other matters I would refer to, and one is the matter of drainage. It has been remarked by both gentlemen, we are doing less drainage than formerly; but while this is true there are conditions under which it is absolutely necessary—that of hemorrhage, that we may know when hemorrhage is taking place; but there is another, and probably one which will cause us to make use of drainage far more frequently, namely, septic conditions. With all the refinement of these later days we still are not always able to do our work so satisfactorily in septic conditions that we are able to close the abdomen, and in those cases we must of necessity make use of drainage, but notwithstanding that fact, it is desirable to dispense with it at the earliest possible moment.

One other point and I am through. That is the question of the treatment of shock; and here again, while I believe that there is no remedy which gives greater comfort to the patient than the administration of morphia, yet I should be very reluctant to give it to a patient after laparotomy in other than stimulating doses. I would prefer, if pain is present to a degree, to require some soothing drug—that codeia should be administered; but if possible I would not administer anything of that kind.

Regarding the methods of combating shock, those mentioned are certainly admirable. The use of large quantities of hot water injected high in the bowels, and, if need be, interstitial injections, combined with an alcoholic stimulant, are of the greatest possible value, and with modern methods of treating shock I think we have at our control agents which have saved and will continue to save many valued lives.

L. Grant Baldwin: I have little to add except to thank the gentlemen for their very kind criticism.

One or two thoughts in substantiation of some of the points. An enema a few hours before an operation still seems to me to be wise, from the fact that with a laxative given the night before, or the day before, we may yet have the rectum filled, and by giving an enema a couple of hours before the ether is administered we insure an empty rectum. I can see no harm in it.

As to morphin and atropin. So generally have people taken morphin at some time in their existence that as a rule those who have an idiosyncrasy for it will know it and will acquaint us of that fact before the operation, so that to a very great extent that danger is avoided, and I feel that the advantages are so great from the lessened amount of ether after the morphin, and the freeness of the bronchial tubes from mucus from the atropin, that it seems to me the advantages more than out-balance the disadvantages. Certainly in the giving of morphin *after* the operation the matter of idiosyncrasy would there be the same as before, but whether it be morphin or codeia the effects are practically the same. I believe that the *advantages are greatly in favor* of giving some anodyne in the form of opium or some of its alkaloids to procure quiet and sleep the first twenty-four hours after operation. I believe that is all-important, and whatever disadvantages morphin, *carefully used always,* may have, I believe its advantages in giving rest and comfort are very much greater than its disadvantages.

I appreciate very thoroughly what Dr. Skene has said about hot bottles in the bed; too great care certainly cannot be taken, but if they are put outside of blankets comparatively little danger is present, but if there is any doubt at all about the attendants, they would better, as Dr. Skene suggests, be taken out of the bed when the patient is put in.

It will certainly be acknowledged that more than a week is often necessary in the preparation of a difficult abdominal case; we may encounter a heart or kidney lesion which may require weeks and months of preparation before operation would be wise.

Milk as a diet after abdominal section I should hate to have to dispense with, and if no nourishment is given under twenty-four hours, and then with great care, I must say milk serves me better than anything else, and when prepared as Dr. H. A. Bunker has suggested it has seldom played me false.

THE BROOKLYN MEDICAL JOURNAL.

Communications in reference to Advertisements or Subscriptions (Subscription Price $2.00 per annum) should be addressed: Business Manager, **Brooklyn Medical Journal**, 260 Hancock Street, Brooklyn, N. Y.

Exchanges, Books for Review and Articles for Publication should be addressed: **Brooklyn Medical Journal**, 1313 Bedford Ave., Brooklyn, N. Y.

Remittances should be made by money-order, draft, or registered letter, payable to **Brooklyn Medical Journal**, and addressed to Business Manager.

Authors desiring Reprints of their papers should communicate with Rooney & Otten Printing Co., 114–120 West 30th Street, New York, stating the number of Reprints desired, and the number of Journal pages their papers will occupy, allowing 470 words to a page.

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EDITORIAL.

ALEXANDER JOHNSTON CHALMERS SKENE, M.D., LL.D.

The death of Dr. Skene removes one who in the medical profession of Brooklyn was *facile princeps.* That he has for many years occupied the position of the most prominent physician of our city will, we think, be acknowledged by all. When the writer was about to enter upon the practice of medicine, a then well-known physician asked him where he intended to begin. When the answer was "In Brooklyn," he said: "Do not do it. No Brooklyn physician has ever made a ripple that crossed the East River." While this may have been true in 1872, it has been far from the truth in recent years. And to no one more than to Dr. Skene has been due the disturbance of the water which has resulted not only in ripples that reached the metropolis, but in waves that have traversed the broad Atlantic. No American physician ever achieved a wider reputation than he; it was both national and international, as is evidenced by the extensive membership in American and European societies to which he was elected.

The professional success which he achieved was due to many causes, so many indeed that it would be impossible, even for those who knew him best, to name them all. First and foremost was, perhaps, his love for his chosen profession. In its mastery no one was ever more zealous or industrious than he. It was for him his life work, and he never permitted himself to be led away from it by allurements of any kind. His genius for sculpture was fostered and encouraged not mainly for the love of art, but because of the training which it gave to both hand and eye, and thus made him the better fitted to observe disease and to handle the surgeon's knife. His ability as a sculptor is known to but few. That he possessed it in a high degree will be at once conceded when an inspection is made of his marble bust of J. Marion Sims, which has for years adorned his parlor.

His reading was extensive, but always pursued with the end in view of improving his own style of speaking and writing, never for the mere gratification which came from the books themselves, although he recognized that the human mind needs relaxation, especially the mind of the active medical practitioner. To this end he was fond of humorous stories, and he took great delight in such books as "David Harum" and "Mr. Dooley:" books in which combined with humor is a large amount of human experience and knowledge of men and their frailties.

Another secret of his professional success was his loyalty to his brother practitioners. We boldly make the claim for him that no physician ever called him in consultation to experience subsequently either the loss of his patient or the diminution of his respect. Would that this could be said of all consultants!

To one more element of his success we cannot forbear referring. It was his knowledge and practice of general medicine before he began his work as a specialist. To no part of his professional life was he more fond of looking back than to that which he spent as an assistant to Austin Flint, Sr., who was at the time, about 1866 and 1867, Professor of Practice at the Long Island College Hospital. He was proud of the skill which he then acquired in the diagnosis of cardiac and pulmonary diseases, and attributed much of his subsequent success in the treatment of his patients to his ability to recognize the existence of disordered conditions other than those of the sexual organs, and to his appreciation of these conditions. Too often now-a-days the specialist emerges full-grown from the medical college, lacking oftentimes any general experience whatever either in hospital or private practice, and as a result his patients suffer and his reputation is often but ephemeral.

In the complete and admirable biography which the Secretary of the Historical Committee has prepared for the JOURNAL, and which is published in this issue, the immense amount of work which was crowded into his professional life, extending through forty years, is for the first time recorded, and its perusal excites wonder and admiration, and explains, to some extent at least, the shortness of that life.

But Dr. Skene had another side than the professional one, and it is this we imagine which will live when the remembrance of the other is faded and dim. While he was admired and respected by his colleagues for his ability in diagnosis and his skill in operating, he was equally beloved and confided in by his patients. Few men have the entire confidence of his patients to as great a degree as did he. Women would trust themselves to him, even to the extent of lying down upon the operating-table and submitting themselves to capital operations, without wishing to know either their condition or what the operation was to be, placing their lives in his keeping with a serene and perfect confidence. The writer knows that this confidence was not peculiar in the case of Dr. Skene; it is, thank God, common to all conscientious surgeons, but he believes that it was manifested towards him in an uncommon degree.

This confidence was due to many causes. One was his personality. He was of magnificent physique and commanding presence. And yet his touch was as gentle and his nature as sensitive as those of a woman. To see him was to be inspired with trust and confidence. When in his presence, the patient felt that for the moment at least all his powers were at her disposal and enlisted in her behalf. His skill in eliciting the clinical history was one of his striking characteristics; and when the patient returned for further treatment his memory of all the details which she had previously communicated to him made her feel that his interest in and knowledge of her were considerable and personal. This retentive memory was cultivated in the early years of his practice, when his patients were few, by the habit of going over in his memory at the close of each day the clinical histories of the cases seen that day, filling in any gaps by reference to his notes, until a complete picture of each case was fixed in his memory. In later years this was impracticable, but the exercise of previous years had made his memory more plastic and retentive. Patients whom he had not seen in years were often astonished at his thorough knowledge of them when they returned for consultation.

His generosity to the poor was unbounded. We doubt if there are many physicians whose visiting lists would show so much professional work done with so little pecuniary compensation. He was always at the service of those unable to pay for his services, and to them he gave of his best, making no difference in the quality of his care or the exercise of his skill. To how many of his professional brethren and their families he gave freely of his time and his skill, only they will ever know. It is, however, a characteristic of Brooklyn physicians which in our experience is more highly developed here than elsewhere. The writer has never heard of a physician of this city making a charge for professional services against a brother practitioner, but he has often heard of it as occurring in New York, and it is said to be a common practice abroad. Dr. Skene's generosity in this regard was the common generosity of his colleagues, only the greater in his case because of his greater skill and experience and the consequent greater appeal to him for succor and help.

Dr. Skene's death occurring in mid-summer, when so many persons were absent from the city, did not produce the shock it would have produced had it occurred at any other season of the year, but when the fall comes on and families return to their homes, and sickness makes its appearance and the necessity for medical help arises, then the loss which Brooklyn has suffered will begin to be appreciated; then will hearts which have been accustomed to be brightened by his cheery and sympathetic voice be desolate, not knowing where to go for comfort and consolation. For all, the time will be long before an adjustment of relations between patients and their new family physician will take place; for some, it will never occur.

PROGRESS IN MEDICINE.

OBSTETRICS.

BY CHARLES JEWETT, M.D., SC.D.

DEATH BY AIR EMBOLISM.

HUBEL (*Wien. klin. Woch.*, February 3, 1900) reports two cases of placenta previa in which death resulted apparently from air embolism. The first woman, 40 years of age, was delivered at the eighth month of gestation owing to placenta previa. After considerable blood loss, which had continued for forty-eight hours, the cervix and vagina were tamponed. The tampon was removed after two days and version was performed. Before the operation was completed, the woman suddenly became cyanotic and died. At autopsy the right ventricle was found filled with air.

In the second case, the woman, 36 years of age, was delivered after several attacks of hemorrhage. Hübel passed his hand through the placenta and brought down a foot. The woman was delivered eight hours later with very little hemorrhage.

A vaginal injection was administered at the close of labor. This was followed by a chill and rise of temperature. The patient was then seized with dyspnea, became cyanotic, and the pulse rose to 170. After partial subsidence of the symptoms for a few hours a second and more violent attack occurred and the woman died fourteen hours after delivery. Hübel attributes this death also to air in the veins.

LABORDE'S METHOD IN ASPHYXIA NEONATORUM.

FRONCZAC (*Buffalo Med. Jour.*, January, 1900) relates four cases of asphyxia of the newborn child, in which Schultze's method was practised without success. Breathing was established in each instance by rhythmic traction on the tongue, twenty times per minute.

DANGERS OF ATMOKAUSIS.

CZEMPIN (*Centralblatt f. Gyn.*, February, 1899) had the opportunity to examine a uterus, removed owing to myoma, in which vaporization had been practised. The greater portion of the endometrium was replaced by scar tissue. A partial regeneration of the mucosa had taken place over a small area. Here the epithelium had been reproduced but the deeper structures of the endometrium were imperfectly restored, contained few vessels and no glands. Czempin is disposed to think that the mucosa is never fully regenerated after the intra-uterine injection of steam.

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OPHTHALMOLOGY.

BY JAMES W. INGALLS, M.D.

IODIN SOLUTIONS FOR TRACHOMA.

Seabrook (*New York Eye and Ear Infirmary Reports,* 1900) reports favorably on the use of iodin for conjunctival granulations. A two-per-cent. solution in benzoinol, applied once a day, was found effective in the worst cases of trachoma. However, in the severe cases with "frog-spawn" granulations, a cure was not obtained until granulations had been squeezed and the two-per-cent. iodin solution used as after-treatment. In the mild cases, one per cent. seemed to be of sufficient strength. Applications of the iodin-benzoinol solution were made to corneal ulcers and the results were sufficiently encouraging to warrant further trial.

OPERATIVE TREATMENT OF HIGH MYOPIA.

Cross (*Trans. of the Oph. Soc. of the United Kingdom,* 1900), in a paper read before the Ophthalmological Society, considered that the operation for high myopia had gone past the experimental stage and that it should now rank as a thoroughly recognized surgical procedure. He admits that there is a risk of detachment of the retina, but thinks that opinion is gaining ground that the danger of its occurrence as a direct result of the operation has been exaggerated. Cross has operated on forty-eight cases and not in a single one has he had any cause for regret. [The discussion was of much interest and the whole probably forms the most complete treatise on the subject to be found in the English language.—J. W. I.]

ADDITIONAL NOTE ON DIONIN.

[Have used dionin in a number of cases of iritis and have found that pain was quickly relieved and relief continued several hours without any unpleasant constitutional effects. The five-per-cent. solution causes a considerable smarting and in some cases violent sneezing. However, when strength of solution was reduced to two per cent. there was little or no smarting, and results were quite satisfactory. The weaker solution does not seem to produce chemosis.—J. W. I.]

PROCEEDINGS OF SOCIETIES.

BROOKLYN SURGICAL SOCIETY.

JAMES P. WARBASSE, M.D., *Editor.*

Regular Meeting, January 4, 1900.

The President, Dr. Walter C. Wood, in the Chair.

THE REPAIR OF EXTENSIVE WOUNDS OF THE FACE.

DR. WALTER C. WOOD presented a man who he said represented the well-known remarkable reparative power of the structures of the face. He had first seen him on June 28, 1897. On that day the patient had been assisting at a celebration and had lighted a mortar, which exploded in his face. He was brought into the hospital two hours afterwards in a condition of profound shock and with an extensive lacerated wound of the face. This wound had freely opened the cavity of the mouth. It tore away the external wall of the antrum and went well upward in the temporal region, and down over the lower jaw, which also sustained a fracture. The powder had filled both eyes and the man was completely blind. There was so much shock it was not possible to clean out the wound; the hemorrhage was stopped by packing, and the packing held in by sutures, bringing together the various flaps. The man remained in the hospital eight or nine months, during which time the facial wound was dressed every day. He was blind for nine months, and then he was operated on by an oculist, the details of which work the speaker was unable to give. He now has some sight and by the aid of his glasses can see well enough to get around town. Some pieces of necrosed bone came out during the process of healing. The appearance of his mouth showed that he had an excellent functional result. The case was presented to show the conservative power of repair possible in the facial structures. With the exception of slight contraction due to the cicatrix he has perfect control of the mouth.

GANGRENOUS APPENDICITIS.

Dr. Geo. Wackerhagen reported the case of H. V., aged 22, a young man leading an active life, who came under his care July 8, 1899. His case was of peculiar interest because the conditions found at the operation were out of proportion to the symptoms manifested. For a year prior to this attack he had suffered from obstinate constipation, the bowels having been relieved only by laxatives. On the sixth day before the speaker saw him, after violent exertion, he suffered with pain in the bowels and in the region of the umbilicus. This was relieved by brandy. The evening of the same day the pain returned, but on the following day he felt well and went to his work. He was free from pain till about ten o'clock in the evening, when he was seized with colicky pain and great tenesmus. Household remedies were applied. On the 8th there was slight pain on deep pressure, but temperature and pulse were normal. Ice-bags were applied over the region of the appendix, and no pain was complained of after this, and he felt better till the afternoon of the 9th, when he began to vomit. His temperature was 101°.

On July 10th, the second day after he was first seen, and five days from the first intimation of the trouble, the reporter operated on him, and found the small intestine discolored to the extent of about four inches, and the appendix gangrenous up to within one-third of an inch of the cecum, the portion where the ligature was applied being the only healthy part of the appendix. With the exception of a stitch abscess he made a good recovery.

CYSTIC TUMOR OF THE UTERUS.

Dr. Geo. Wackerhagen reported the case of Mrs. P., who consulted him on October 14, 1895. She was 43 years of age, and the mother of two children, the youngest being 5 years old. Upon examination the speaker discovered a fibroid tumor extending to half way between the symphysis pubis and umbilicus.

This was immovable. The patient had been treated with galvanic electricity by a New York surgeon. The speaker advised an operation, but this she refused, stating that she had been informed that many such tumors disappeared under electrical treatment. She was determined to continue this treatment, and as she had considerable hemorrhage during her menstrual periods he compromised by advising curettage, and she continued the electrical treatment. The treatment was continued for two years without any benefit as regards diminution in the size of the tumor, but with entire relief from hemorrhage and pain. The treatment was then discontinued until March 6, 1899, when she again applied to the speaker for treatment. Upon examination he found the tumor increased in size reaching as high as the umbilicus. There was an odorless discharge of a purulent character from the uterus. She consented to an operation for the removal of the growth, and the reporter operated on May 3, 1899. Upon opening the abdominal cavity, the tumor was found to occupy considerable of the abdominal pelvic region, extending above the umbilicus. It was adherent to the bladder, sigmoid flexure, and to the pelvic wall on the right. Its removal was not followed by any shock or depression, and the patient made a complete and rapid recovery, without abnormal temperature. She returned to her home three weeks after the operation, and was able to take a railroad journey to her summer home at Sea Cliff at the beginning of the fifth week.

In connection with this case the speaker mentioned a patient who came under his care September 20, 1898. She was a German, aged 40. She also suffered from a uterine fibroid. She had pain, menorrhagia, and metrorrhagia, and was feeble, pale, and emaciated. The tumor extended four inches above the symphysis pubis, and was firmly wedged into the pelvic cavity; it extended downward to within two inches of the vulva. The tumor was absolutely immovable, and the speaker considered the case inoperable, and so informed the patient. At her urgent request he commenced the application of electricity. This was followed by relief from pain and cessation of hemorrhage. In January, to his surprise, the tumor commenced to decrease in size. The treatment was continued until November 4, on which day she made the last visit to his office. The tumor could not be detected through the abdominal wall, and only some hardness could be found on the left side of the uterus by vaginal examination. The uterus was movable, well defined, body and cervix, and her general health was perfect.

The speaker said that he felt in duty bound to the advocates of the electrical treatment to mention this case. With the exception of this case, and one other, his experience with the electrical treatment had been very unsatisfactory.

Discussion.

DR. L. S. PILCHER remarked with regard to the electric treatment of fibroid tumor, that the history of these cases is not yet complete. He had in mind a case that was reported a number of years ago, in the earlier history of the electrolytic treatment of myomatous tumors of the uterus, that was proclaimed as a signal example of the value of that treatment and went into the literature as a well-marked proof of the possibility of the power of the electrolytic application to produce shrinking and ultimate disappearance of such a tumor. This was in a woman who was a neighbor of his, the case was one of those that was reported by the late Dr. Freeman. For some time she remained much improved, but after a time the growth sprang up again and continued to increase, producing increasing disturbance, until finally the uterus, tumor and all, was extirpated, from which she made a happy recovery; and the history of that tumor is not at an end.

He said that this growth, which has been reported to us as having happily pursued the same course as the one which he had described, has not completed its history by any means; and it would be interesting to hear from it five years from now.

DR. WACKERHAGEN said that as regarded the patient having the fibroid disappear under electrical treatment, he wished to have it noted that he was not at all an advocate of electrical treatment in these cases, because from his experience it is invariably a complete failure. He would be very happy to make further report of this case. The result was indeed very surprising to him.

SARCOMA OF THE AXILLARY REGION.

DR. GEO. WACKERHAGEN reported the case of Mrs. M., aged 40, who consulted him on the 26th of February, 1899, in reference to a small tumor in the axillary region. She first noticed it on the 22d of February, 1899. Two weeks before, while changing tables at a progressive euchre party, she struck the lower part of the axillary space on the high back of a chair. The blow did not occasion any special pain, and she only recalled the incident when she discovered the small mass which was rapidly increasing in size. The speaker advised immediate operation; and on the 2d of March he removed the growth, including a wide area of the surrounding healthy structures. The axillary region was cleaned out, though there was no involvement of the lymphatic tissues. The tumor was incapsulated.

The pathologist's report stated that a microscopic examination of the tumor shows a mixed celled sarcoma.

The wound healed by first intention, and the patient made an uneventful recovery, and returned to her home on the eighth day after the operation. After recovery from the operation the patient was put on the bromide of arsenic and gold treatment as advised by Professor Wight. This was continued eight months, and there has been no return of the trouble.

In another case, on March 16, 1899, in which the speaker had removed a sarcoma that was situated near the tuberosity of the ischium, he pursued the same line of after treatment, and in that case also there has not been a return of the growth.

GANGRENE OF THE FOOT.

Dr. Geo. Wackerhagen reported the case of a man aged 62, a hard drinker for twenty years, who had been subject to repeated violent attacks of delirium tremens. On December 3, 1899, he complained of severe pain in his right foot. The pain was so intense that it was necessary to keep him under the influence of morphine. Upon examination, the urine was found loaded with sugar. The foot rapidly became gangrenous, the condition extending from the toes to the ankle-joint, a line of redness extending anteriorly six inches above the ankle-joint.

The speaker operated December 14th, after the method of Esmarch, doing an amputation at the knee. No shock or depression followed the operation. On the following morning the index finger of the left hand had become cold and discolored, but this has since improved in color and appearance. Two and a half days after operation the patient complained of pain in the stump. The dressings were changed and the flaps found in excellent condition, with almost entire union by first intention. The patient has been kept on diabetic treatment, and he has made a happy and entire recovery.

The following report from the pathologist gives the condition found in the amputated leg: "The post-tibial and perineal arteries were dissected to the external and internal plantars; also, the anterior tibial, pedis dorsalis, to the metarsus. Throughout the lining of the arteries there were atheromatous deposits, in places decided roughened deposits which were easily detached. As the caliber of the arteries lessened, the deposits encroached on the lumen of the vessels. No embolus could be found. The gangrene, which was of the dry variety, was due to endarteritis obliterans."

Discussion.

Dr. W. C. Wood said that the relation of the diabetic process to the amount of endarteritis in these cases is a subject he had not understood. Do we get a diabetic gangrene pure and simple without obliterating endarteritis? Is this case to be considered as a diabetic or a circulatory gangrene? That is a subject that has never been settled in his own mind, and he wished to hear some opinion relative to the causative factor in this class of cases, which seems usually to include them both.

BROOKLYN PEDIATRIC SOCIETY.

WILLIAM A. NORTHRIDGE, M.D., EDITOR.

The ninth regular meeting of the Brooklyn Pediatric Society was held at the new building of the Medical Society of the County of Kings, on Friday evening, June 8, 1900, with the President, Dr. Henry N. Read, in the chair.

The scientific program of the evening consisted of a paper entitled "Infantile Scorbutus," by Dr. W. H. Seymour. An interesting discussion followed, which was participated in by Doctors Benjamin Edson, A. P. Northridge, Frank Shaw, C. L. Kerr, Rosalie Bell, E. H. Bartley, William M. Hutchinson, W. A. Chapman, Henry N. Read, and Wm. A. Northridge.

Dr. Rosalie Bell was appointed librarian for this society, to assist the librarian of the Medical Society of the County of Kings in the building up of the pediatric section of the library.

Meeting adjourned to convene again on the second Friday evening in September, when all interested in the diseases of children are invited to be present.

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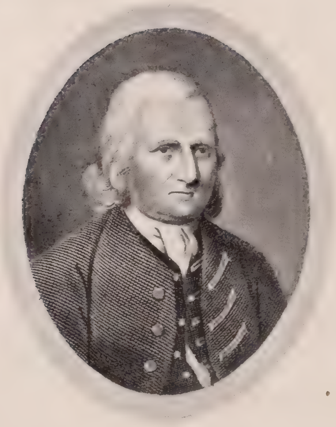
HISTORICAL DEPARTMENT.

ALEXANDER JOHNSTON CHALMERS SKENE, M.D., LL.D.

Men whose names are honored and held in high veneration by the medical profession, and who were born, or practised the healing art on Long Island: Valentine Mott, M.D., LL.D., John Jones, M.D., Wright Post, M.D., Samuel L. Mitchell, M.D., LL.D., Valentine Seaman, M.D., Frank H. Hamilton, M.D., LL.D., Alfred C. Post, M.D., LL.D., James L. Little, M.D., Daniel Ayres, M.D., LL.D., and Joseph C. Hutchinson, M.D., LL.D.; these and many others have not alone made a record for themselves in the profession, but their labors were of that character as to be an incentive to higher aims by those who were to follow after they had completed their life work among us. Long Island, and in particular the city of Brooklyn, has been benefited by their connection with us. The practise of medicine and surgery was but in its infancy in this country when these men first entered the profession of medicine; the record of their work and accomplishments is recognized to-day as the foundation upon which the present system of surgery has been in a large degree erected. In order to extend its usefulness and to simplify the different methods of operation, it required some master mind in each department, some one particularly adapted by nature and education to explain the different methods of procedure, and at the same time to be able to demonstrate in a practical way the cause and results of each operation.

In the department of gynecology Dr. A. J. C. Skene possessed this happy faculty. His lectures were practical and comprehensive in every particular. In illustrating his subject he often made use of any convenient object, thereby making a deep impression upon the mind of the student. In this particular he was often likened to the late Prof. Corydon La Ford, M.D., LL.D.,



Cadwallader Colden

for many years professor of anatomy. Many of us will remember that, after examining a patient at his clinic, he would turn around and draw upon the blackboard a diagram of the conditions found; his knowledge of the standard of health, his observation of diseased conditions of the human body, and his keen perception of things generally, made him master of his subject. The late Prof. Samuel G. Armor, M.D., LL.D., was particular to impress upon the minds of the students that, in order to arrive at a correct diagnosis, it was necessary to go through the process of elimination; by this he meant that the different systems of the body should be carefully examined, those that were found to be in health eliminated, those in disease noted. Dr. Skene not alone understood this method of examination, but his keen vision was able to detect deviations from the normal standard. He was uniformly kind and gentle, and seemed to be in possession of a most charming disposition.

Few operators have been able to handle surgical instruments with more dexterity than he; his fame in this particular was not confined to our own country, but has spread to the medical centers of the world. Like the late James Marion Sims, M.D., LL.D., of whom Dr. Skene was a great admirer, his reputation as a gynecologist was international.

We, as members of the medical profession, bow in humble submission to the inevitable law of nature, and the power of Him who rules all things; many of us feeling that we have lost a friend, teacher, and adviser. Still, were it not that such men as Dr. Skene had lived and labored among us, many of us would not be able to accomplish results such as are evident in our everyday practise, as compared with the work of the general practitioner of twenty-five years ago.

As an alumnus of the Long Island College Hospital, that institution has lost one of its brightest ornaments; for thirty-three years he occupied the position of teacher, during which time over 1600 students of medicine received the degree of M.D. at the Long Island College Hospital, and we feel that the voice of the alumni is "We are proud of our teacher."

Dr. Alexander J. C. Skene was born in the parish of Fyvie, Aberdeenshire, Scotland, June 17, 1838, and died at Highmount, Catskill Mountains, N. Y., July 4, 1900. The funeral services were held at the family residence, 167 Clinton Street, Brooklyn, N. Y., the Rev. Edward P. Ingersoll, A.M., D.D., officiating; the interment being in Rockland Cemetery, N. Y.

His father was Johnston Skene, and his mother Jean McConachie, both of Aberdeenshire, Scotland. Dr. Skene was married to Annette W. L. Van der Wegen of Brussels, Belgium; they having no children except an adopted daughter, Miss Mignon Skene.

His early education was received in the schools of Aberdeen and Kings College.

During the winter of 1896-97 Jonathan S. Prout, M.D., called upon the Secretary of the Historical Committee and requested a copy "by title" of his scientific papers, and the different colleges he attended. This information was for the University of Aberdeen, Scotland; this institution conferring upon him the degree of LL.D. in March, 1897.

He entered upon the study of medicine in 1860 at Toronto, Canada, with Alexander McKinnin, M.D., as preceptor, and matriculated with the University of Michigan in 1861-62, graduating M.D. from the Long Island College Hospital in 1863, having selected as preceptor in this city William Gilfillan, M.D.

In July, 1863, he entered the United States army as assistant surgeon, and was stationed at Port Royal, Charleston Harbor, and later at Decamp's Hospital, David's Island, until June, 1864. During this time he evolved a plan for an army ambulance corps, which was the beginning of that system which is now recognized as so essential to the welfare of the army. During the years 1884-85 he held the position of lieutenant-colonel and surgeon in the Second Division, National Guard, State of New York, on the staff of Gen. E. L. Molineux.

Dr. Skene entered upon the practice of medicine in the city of Brooklyn in 1864, where he remained during his entire professional career. In connection with the late William M. Thallon, M.D., he opened a private sanitarium on President Street, near Prospect Park, in 1884. In March, 1899, the question of organizing a Hospital for Breadwinners in this city was presented, the name being changed in the same year to that of Skene's Hospital for Self-Supporting Women; it is now proposed to call it the Skene Memorial Hospital for Self-Supporting Women. This hospital was incorporated August 3, 1899.

During his professional life he was called upon to fill the following positions:

1877-78. Consulting Surgeon, Brooklyn Central Dispensary.

1866-99. Gynecologist, Long Island College Hospital.

1893-1900. Consulting Gynecologist, Kings County Hospital.

1866-70. Assistant Professor, Obstetrics and Diseases of Women, Long Island College Hospital.

1870-99. Professor Gynecology, Long Island College Hospital.

1886-93. Dean of the Faculty, Long Island College Hospital.

1893-99. President of the Long Island College Hospital.

1883-86. Professor Gynecology, New York Post-Graduate Medical School.

His connection with the different medical societies was as follows:

1865-1900. The Medical Society, County of Kings; Vice-President, 1872; Trustee, 1889-93; President, 1874-75.

1868-75. Long Island College Hospital Journal Association.

1871-1900. Brooklyn Pathological Society.

1890-1900. Brooklyn Gynecological Society; President, 1891-1892.

1892. One of the founders of the Belgian Periodical Congress of Gynecology and Obstetrics at Brussels.

1893. Member of the Periodical Congress of Gynecology and Obstetrics at Rome, Italy.

1896. Honorary President of Periodical Congress of Gynecology and Obstetrics at Geneva, Switzerland.

1900. Member of the 13th International Congress of Medicine, Paris, France.

1892-1900. Brooklyn Medical Book Club.

1880-1900. Alumni Association, Long Island College Hospital; first President, 1880. New York Physicians' Mutual Aid Association.

1879-1900. New York Academy of Medicine. New York Obstetrical Society; President, 1877-79.

1876-1900. American Gynecological Society; President, 1886-1887 (one of the founders).

1899-1900. The Associated Physicians of Long Island. The Practitioners' Club, Brooklyn, N. Y.

1872-76-81-82. Delegate to the American Medical Association.

1900. Société Royale des Sciences Médicales et Naturelles, Brussels.

1895. Honorary Fellow, Edinburgh Obstetrical Society.

Corresponding Member.—British Medical Society, Boston Gynecological Society, Detroit Gynecological Society, Paris Obstetrical Society, Leipsic Obstetrical Society.

Honorary Member, Baltimore Medical Society.

Skene's Urethral Glands.—This is a distinction that has never come to any physician located on Long Island: to have his name connected with any part of the human body. Dr. Skene discovered these glands in 1880; their history and pathology were presented in a paper by Prof. Joshua M. Van Cott, Jr., M.D., in 1888.

MEDICAL PAPERS, BOOKS, ETC.

1883-84. Associate Editor, *Archives of Medicine.*

1884-89. Associate Editor, *American Medical Digest.*

1891—. Associate Editor, *The New York Gynæcological and Obstetrical Journal.*

1884. Introduction to David B. Hart's "Atlas of Female Pelvic Anatomy."

1887. Article, "General Therapeutics, American System of Gynecology."

BOOKS.

1878. "Diseases of the Bladder and Urethra in Women," second edition, 1887; 8vo, pp. 374.

1888. "Diseases of Women"; third edition, 1898; 8vo, pp. 966.

1889. "Education and Culture Correlated to Women," 12mo, pp. 127.

1895. "Medical Gynecology," 8vo, pp. 529.

1899. "Electro-Hæmostasis in Operative Surgery," 8vo.

1897. "True to Themselves" (novel), 12mo.

MEDICAL PAPERS AND ADDRESSES.

1863. "Measurements of the Lower Extremities in Cases of Fracture; with a Series of Experiments."

1864. "Feigned Disease and Its Diagnosis as Occurring in Military Practice."

1865. "Cases of Thoracic Disease Showing Extensive Pulmonary Lesions with Little Constitutional Derangement."

1866. "Inhalation of Lime-Water in Croup."

1869. "A Modification of Sir James Y. Simpson's Uterine Sound."

1870. "A New Uterine Sound and Scarificator."

1870. Pathology of Endometritis: Subinvolution and Sclerosis Uteri."

1870. "Malignant Disease of the Neck of the Uterus; Its Diagnosis and Treatment."

1871. "A New Handle for Introducing the Sutures in Rupture of the Perineum."

1871. "Diagnosis and Symptomatology of Corporeal Endometritis."

1871. "Prolapsus Uteri, with Illustrations of Its Surgical Treatment."

1872. "Sclerosis Uteri."

1873. "The Treatment of Uterine Disease."

1873. "Drainage through the Cul-de-Sac of Douglas after Ovariotomy."

1873. "Natural and Artificial Dilatation of the Os; Uterine Parturition, Either Premature or at Term."

1873. "Areolar Hyperplasia and Sclerosis Uteri."

1874. Inaugural Address, President of the Medical Society, County of Kings.

1874. "Deranged Menstruation from Imperfect Development of the Reproductive Organs, and Diseases of the General System."

1874. "Deformity of the Uterus, with Especial Reference to Anteflexion."

1875. "Treatment of Abortion."

1875. "Urocystic and Urethral Diseases of Women."

1876. "Cicatrices of the Cervix Uteri and Vagina."

1877. "The Old and New in Uterine Pathology and Therapeutics."

1877. "A Second Successful Case of Gastro-Elytrotomy."

1877. "The Principles of Gynecological Surgery Applied to Obstetric Operations."

1878. "Treatment of Laceration of the Cervix Uteri."

1879. "Relation of Diseases of the Sexual Organs to Phthisis in Women."

1880. "Diseases of the Glands of the Female Urethra."

1880. "Reproductive and Nervous System in Women."

1880. "Gynecology as Related to Insanity in Women."

1880. "The Anatomy and Physiology of Two Important Glands of the Female Urethra."

1880. "Report of Sixty Cases of Hystero-Trachelorrhaphy."

1881. "An Unusual Case of Incontinence of Urine."

1881. "The Relation of the Ovaries to the Brain and Nervous System."

1881. "Causes of Puerperal Hemorrhage."

1881. "The Treatment of Wounds in Gynecology."

1882. "Clinical Observation on Cystitis in Women."

1882. "The Essentials of Success in Ovariotomy."

1883. "Some Diseases of the Female Organs of Generation Characterized by New Growths."

1883. "Malpositions of the Uterus."

1883. "The Essentials of Success in Laparotomy."

1883. "Five Cases of Ovariotomy."

1883. "Frequent and Painful Micturition."

1883. "The Practice of Gynecology in Institutions Designed for That Purpose."

1884. "Injuries to the Pelvic Floor."

1884. "Vaginitis and Vulvitis."

1884. "Anemia and Its Relation to the Sexual Organs."

1884. "Frequent Miscarriage; Its Pathology and Treatment."

1885. "Amenorrhea."

1885. "Dysmenorrhea."

1885. "A Successful Case of Laparo-Elytrotomy."

1885. "The Utility and Efficiency of the Medical Department of the National Guard, State of New York."

1885. "Membranous Dysmenorrhea."

1886. "Samuel G. Armor, M.D., LL.D., Place in the Medical Profession."

1887. Address, President American Gynecological Society.

1889. "Pelvic Cellulitis."

Paper read in May, 1900, in Washington Status of Gynecology from 1876-1900.

1890. "Intraligamentous Ovarian Cystoma."

1890. "Injuries to the Uterus During Labor."

1891. "Removal of Tubes and Ovaries; Acquired Anteflexion of the Uterus; Ventral Fixation of Uterus."

1891. "Modern Method of Closing Wounds and Controlling Bleeding Vessels."

1891. "The Old and the New Ways in the After Treatment of Laparotomy."

1891. "Discussion on Pelvic Inflammation in Women; Notes on the Pathology."

1892. "The Treatment of Injuries of the Pelvic Floor and Cervix Uteri."

1892. "Treatment before and after Laparotomy."

1892. "Notes on the Galvano-Cautery in the Treatment of Urethral and Vesical Disease."

1892. "Chronic Ovaritis and Its Treatment."

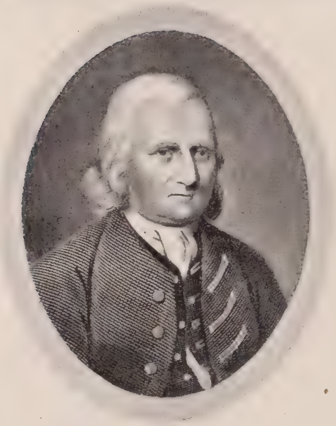
1892. "Amenorrhea, Endometritis and Metrorrhagia; Curetting and Drainage in the Treatment of Endometritis."

1892. "Hernia of the Bladder."

1892. "The Relation of the Diseases of the Sexual Organs of Women to Insanity, and Affections of the Nervous System."

1892. "Ovariotomy with Complications."

1893. "Prolapsus of the Bladder."



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1893. "Prolapsus of the Ovaries, Oöphoritis and Pelvic Peritonitis; Abdominal Section."

1893. "Atresia of the Vagina; Retention of the Menstrual Fluid."

1894. "Some Defects in Surgery, as Practised and Taught."

1894. "Removal of the Tubes and Ovaries."

1894. "Senile Endometritis."

1894. "In Memoriam—Corydon La Ford, M.D., LL.D."

1894. "Ovarian Neoplasms."

1894. "The Technic of Laparotomy."

1894. "Vaginal Hysterectomy and Its Limitations."

1895. "Miscarriage Caused by Endometritis."

1895. "Epithelioma of the Uterus; Removed by Vaginal Hysterectomy."

1895. "The Invalid Habit among Women: Cause and Treatment."

1895. "Removal of Ovarian Cystomata; Cancer of Both Ovaries."

1896. "Thomas Keith, M.D., England. Biography."

1896. "Singular Case of Patency of a Gärtner's Duct."

1896. "Surgical Treatment of Retrodisplacement of the Uterus."

1897. "Notes on the Diagnosis and Treatment of Diseases of the Urinary Organs in the Female."

1898. "The Hemostatic Forceps in Exsecting the Appendix."

1898. "The Treatment of Neoplasms of the Skin and Mucous Membranes with the Galvano-Cautery and Electrolysis."

1898. "The Treatment of Incomplete Development of the Uterus."

1898. "Address at the opening of the Polhemus Memorial Clinic."

1898. "The Treatment of Bleeding Vessels with Pressure and Electricity."

1898. "Reports of Edwin N. Chapman, M.D., Gynecological and Obstetrical Clinic, Long Island College Hospital, 1865-66."

1900. "Cleanliness in Minor Gynecology."

SURGICAL INSTRUMENTS.

Skene's buttonhole scissors, cervix needles, compression forceps, counterpressor, curette, cystocele pessary, double perforated catheter, elevator and curette, endoscope, fissure knife and probe, Folsom's speculum, hemorrhoidal clamp, hawk-bill scissors, instillation tube, needle forceps, ovariotomy cautery clamp, perineum needle, pessary for prolapsus of the bladder, reflux catheter, seizing forceps, self-retaining catheter, sound and scarificator, tenaculum forceps, urethral speculum, urinal cup pessary, uterine sector, uterine sound, vulsellum forceps, wire écraseur.

William Schroeder, M.D.,
Secretary of Historical Committee.

ALEXANDER J. C. SKENE, M.D., LL.D.

At a meeting of the officers of the Long Island College Hospital Alumni Association, held July 5, 1900, for the purpose of taking action in relation to the death of Dr. Alexander J. C. Skene, the following preamble and resolutions were adopted:

Dr. Skene was graduated from the Long Island College Hospital in 1863, and it seems providential that among the first graduates of the institution there should be one whose life work has shed luster on the name of our alma mater. During the thirty-one years that Dr. Skene served the Long Island College Hospital as Professor of Obstetrics and of Gynecology his influence with the alumni has been far-reaching and beneficent.

Dr. Skene's career terminated while he was yet at the zenith of his powers; but it is firmly believed that his work will continue to serve as an object lesson for the guidance of those among us who desire to profit by the example of a noble life.

Resolved, That by the death of its first President, the Association has sustained an irreparable loss the full appreciation of which cannot be expressed in words. Be it further

Resolved, That the foregoing be entered on the records of the Association, and that a copy be furnished Dr. Skene's widow, whose sorrow we share, and to whom we wish to convey the assurance of our sympathy and a friendship which is more enduring than life, because it is not terminated by death.

Glentworth R. Butler, M.D., '80,
President.

B. B. Mosher, M.D., '90,
Secretary.

John Harrigan, M.D., '74,
L. Grant Baldwin, M.D., '86,
R. L. Dickinson, M.D., '82,
Committee.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

Dr. Lewis S. Pilcher, President of the Medical Society of the County of Kings, was honored recently by receiving the degree of LL.D. from the University of Michigan.

Dr. James Cole Hancock has been appointed ophthalmologist to the New York State Hospital at Flatbush.

Dr. John L. Waldie has received the appointment of Assistant Visiting Physician to St. Mary's Hospital, being associated with Dr. L. J. Morton on the Neurological Staff.

Dr. John R. Stivers of Lefferts' Place, Associate Treasurer of the County Society, has resumed practice after a long siege of typhoid fever. He took a short trip away to regain his strength, and his many friends congratulate him upon his return to health.

It is always of interest to physicians of this city to hear of the successes of their fellow Brooklynites who have taken up their work in other parts of the world. Dr. Frederick L. Benton, son of Dr. S. H. Benton, who received his appointment as Assistant Surgeon in the navy about two years ago, has been attached to the Naval Hospital at Cavité since he went to the Philippines. He is now senior in length of service at the hospital. He expects to serve another year there, and then return home for examination for promotion.

Dr. J. M. Winfield, president of the Associated Physicians of Long Island, and Dr. C. D. Napier, secretary of the association, took a three-days' wheeling trip recently from Brooklyn to Sag Harbor, and on the way called upon some of the country members of the society. Dr. E. H. Bartley participated in the last portion of the journey.

The attention of the readers of the JOURNAL is called to the list being published by Dr. Browning of the periodicals which are wanted to complete the files in the library of the Society. This list was begun in the August number, and will be found among the advertising pages.

At a meeting of the corps of teachers of the New York School of Clinical Medicine, held at the Academy of Medicine, June 21st, it was decided to wind up the affairs of the school and close it permanently. This action was taken in consequence of continuous interference of the lay Board of Trustees in its affairs.

The next regular meeting of the Associated Physicians of Long Island will be held at East Hampton about October 6th. The association will be the guests of the village of East Hampton at dinner, and carriages will be provided to give the members an opportunity of seeing the beauties of the place. A special train will be secured, and the program of the meeting promises to be an interesting one.

The daily press occasionally refers to medical subjects in a way to be of benefit to the community, and when it does so it should receive encouragement from medical publications, which are intended to voice the opinions of the medical profession. Commenting on an operation for hydatid cysts, performed in a metropolitan hospital, one of the daily papers referred to the presence in dogs of the cause of this disease, and the natural results which may follow the fondling of an infected animal, and especially the disgusting practice of kissing pet dogs. It is to be hoped this paper will strike at other follies which are inimical to health.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

AN AMERICAN TEXT-BOOK OF SURGERY FOR PRACTITIONERS AND STUDENTS. By American Authors. Edited by William W. Keen, M.D., LL.D., and J. William White, M.D., Ph.D. Third Edition, Thoroughly Revised. Royal Octavo; pp. 1228. Illustrated. Philadelphia: W. B. Saunders, 1899. Price $7.00.

In preparing and giving to the medical profession this work, the authors, among whom are some of the ablest and most eminent surgeons of America, have achieved a result of which they may well be proud.

Four general divisions make up the volume. In the first of these are treated the topics of General Surgery. Its opening chapter recognizes the fact that the most important factor in modern surgery consists in the recognition, differentiation and study of the various forms of bacteria. The addition of illustrations elaborating the technique of culture methods would enhance the value of this portion of the work.

The other subjects treated in this first book are Inflammation and

General Indications of Treatment; The Process of Repair; Traumatic Fevers, including post-operative insanity; Suppuration and Abscess; Ulceration and Fistula; Gangrene; Thrombosis and Embolism; Pyemia; Erysipelas, Tetanus and Tuberculosis (under this head is included Serum Therapy, a subject that at the present time well merits a separate chapter); Rachitis; Contusions and Wounds; the Surgical Diseases due to Microbic Infection—Anthrax, Hydrophobia, Glanders, Actinomycosis and Syphilis. The concluding chapter is devoted to Tumors.

Book II—Special Surgery—treats of the Vascular System, the Osseous System, including the important subject of fractures; Diseases and Injuries of the Muscles; Orthopedic Surgery; Surgery of Nerves and of Joints, and Diseases of the Lymphatics and of the Skin and its Appendages.

Book III—Regional Surgery—begins with Diseases and Injuries of the Head and gives an excellent exposition of cerebral topography and the various methods of localizing and of relieving various cerebral lesions. This chapter shows clearly the advances that have been made in cranial surgery since antisepsis and asepsis have played an important rôle.

The Surgery of the Spine, of the Chest, of the Digestive Tract, of the Neck, Abdomen and Genito-Urinary Apparatus, including the surgery of the Female Genitalia, are the principal subdivisions of this part of the work.

In the Fourth Book, devoted to Operative Surgery, the general principles applicable to good surgical work are first clearly stated and then the more detailed account of the method of procedure in the ligation of arteries, the suture of nerves, the uniting of divided tendons, the various amputations and finally the more recent application of Roentgen rays for surgical diagnosis and treatment are all clearly described and well illustrated.

The surgery of the eye and of the ear have been omitted.

The illustrations like those of the other volumes of the series are excellent, many of them are original, and so freely are they supplied that the value of the text is greatly enhanced.

In this single volume, therefore, there is treated in a concise, practical and scientific manner the entire subject of surgery, and the work as a whole is a monument to the painstaking care that has been lavished upon it. More than anything else it shows that the authors, by virtue of merit, hold their places in the front rank of the profession and have deservedly been selected as teachers for "those who, in their turn, shall follow them."

Henry P. de Forest, M.D.

The Treatment of Wounds, its Principles and Practice, General and Special. By Lewis Stephen Pilcher, A.M., M.D., 1899.

In this day of systems and compends, it is a pleasure to study a book that treats of a subject in its entity, in such a charming manner as Dr. Pilcher has adopted. The teaching is put before us in no uncertain style and is in accord with the most modern thought: commencing with the general consideration of wounds, the author takes up the principles of treatment with the desired ends to be accomplished and then discusses the means at the disposal of the surgeon to accomplish those ends. The final chapters treat of wounds which are peculiar because of location or because of the nature of the organ injured. The personality of the surgeon often helps greatly in his success and at the end of the first chapter the valuable principle of ministering to the patient as well as to the wound is laid down.

The résumé of the third chapter contains all we know with certainty about the effect of micro-organisms on wounds and furnishes the basis of a scientific method of treatment. The different antiseptics found of value by the author are discussed.

The chapter on the arrest of hemorrhage is most delightfully written, containing the story of the introduction of ligatures to bleeding vessels by Paré. The foot-note on page 141 is a translation of Paré's work on ligation. Shock and its treatment are ably discussed.

Perhaps no one point marks the difference between the surgeon of yesterday, and the surgeon of to-day, more than the subject of drainage. The author well says that "The use of drains, however, is to be regarded always as a complication, which, if possible, should be avoided." No satisfactory method of draining the abdominal and pelvic cavities of pus has yet been found, and the disadvantages of gauze and tubular drains are pointed out.

The chapter on gunshot wounds is full of interest, and we are glad to notice the emphasis placed on caution in exploration, and caution against routine probings.

Dr. Pilcher is sceptical about the early return of function to severed nerves that have been sutured.

Closing his chapter on compound fractures, the author says: "In no case is it recommended to hermetically seal the wound of a compound fracture." The final chapters on special wounds are pregnant with suggestions, the fruit of the author's wide experience and accurate observations.

To the student, the house surgeon and the attending surgeon alike, the book is invaluable. W. B. Brinsmade.

Syllabus of General Pathology. By J. M. Van Cott, M.D., Professor of Pathology and Bacteriology at the Long Island College Hospital, Brooklyn, New York. Pathologist to Long Island, Brooklyn and King's County Hospitals and consulting Pathologist to St. John's Hospital.

The author of this valuable volume states that it was prepared as a digest of the fundamental principles of the science of pathology for the use of his class. We congratulate the student on the possession of such a complete summary of a branch of medical science which must be regarded as its foundation. The subject of the various chapters are I. Pathology; II. Blood; III. Inflammation; IV. Pathology of Blood; V. Pathology of the Vascular Apparatus; VI. Bacteria; VII. Pathology of the Respiratory Apparatus; VIII. Neoplasms; IX. Urinary Tract. A copious and well-made index is added to aid ready reference.

The practitioner will do well to obtain this book. The facts are so classified as to make clear to him, without much trouble, a very intricate subject. Coming, as it does, from the pen of an active scholar and experienced teacher this guide will be found accurate and up to date.

HEMMETER. Diseases of the Stomach, Their Special Pathology, Diagnosis, and Treatment, with Sections on Anatomy, Physiology, Chemical and Microscopical Examination of Stomach Contents, Dietetics, Surgery of the Stomach, etc. By John C. Hemmeter, M.D., Professor in the Medical Department of the University of Maryland, Baltimore. With many original illustrations, a number of which are in colors. Second Edition, enlarged and revised. Octavo, 898 pages. Price, $6.00 net, cloth. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Pa.

The author has accomplished that difficult task of re-writing his book; a great part of it has been re-constructed and a large amount of new material added, *e. g.*, articles on hypertrophic stenosis of the pylorus; obstruction of the orifices; the use and abuse of rest and exercise in the treatment of digestive diseases; hemorrhage from the stomach. New plates have been added also. This new creation is better than the first. It is very near perfection.

TEXT-BOOK OF OPHTHALMOLOGY. By Dr. Ernest Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized Translation, Revised from the Seventh enlarged and Improved German Edition. By A. Duane, M.D., Assistant Surgeon Ophthalmic and Aural Institute, New York, with two hundred and seventy-seven illustrations. Second American edition. New York. D. Appleton & Company, 1899.

The second American edition of Fuchs' Text-Book of Ophthalmology certainly deserves a favorable reception. Chapter on "Diseases of the Cornea" is of special interest. The value of the chapter on "Disturbances of Motility of the Eye" has been greatly enhanced by the addition of the translator's article on "Heterophoria." On p. 484, "Hydrops Vgainæ," is probably meant for Hydrops Vaginæ; on p. 561, reference is given to Fig. 93, this is evidently an error. The subject-matter has been conveniently arranged, the more important topics being in coarse type, the less important in fine type. It is no exaggeration to say that an ophthalmologist's library would be incomplete without Fuchs' Text-Book.

JAMES W. INGALLS.

CLINICAL BACTERIOLOGY. By Levy and Klemperer. Translated by A. A. Eshner. Second enlarged and revised edition. W. B. Saunders, Philadelphia, 1900. Price, $2.50 net. Pp. 441.

The translation of Levy and Klemperer's "Grundriss der Klinischen Bakteriologie," by Dr. Eshner is a very creditable piece of work. The original work was much handicapped by lack of illustrations, and the addition of a plentiful number of well-chosen illustrations more than doubles the value of the book as a working manual. Valuable additions have also been made in the chapter on Plague and the one on Botulism. The chapter on Immunity, Immunization and Cure is especially good. The tabulation of the bactericidal value of the various disinfectants is valuable as a ready reference. The illustrations, taken mostly from various German text-books, are well reproduced. E. H. WILSON.

GENERAL AND LOCAL ANESTHESIA. By Aimé Paul Heineck, M.D., Clinical Instructor in Genito-Urinary Diseases, College of Physicians and Surgeons, Chicago, etc. 124 pages, $1.00. G. P. Engelhard & Co., Publishers, 358-362 Dearborn Street, Chicago.

The topics include the uses of chloroform and ether; the use of anesthetics in childbirth; anesthetics for diagnostic and therapeutic purposes; anesthetics in surgery, selection of the anesthetic as governed by the nature of the operation; posture and preparation of the patient; rules for administering of chloroform and ether; precautions before and after; what to do in cases of accidents; methods of applying local anesthetics; the use of cocaine in nose and throat; in genito-urinary surgery; precautions for cocaine anesthesia; infiltration anesthesia and its technique.

This is a very complete little volume. It will be of value to the physician, surgeon and specialist.

LECTURE NOTES IN PHYSICAL DIAGNOSIS AND LIFE INSURANCE. By C. H. Somers, A.B., M.D., Professor of Physical Diagnosis, Illinois Medical College, Chicago.

This book has no index. It is well written, well arranged and correct. The student will find it useful in his course. As a work of reference it will be handicapped by the omission we have noted.

PROGRESSIVE MEDICINE—VOLUME I, 1900. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 404 pages, 36 engravings and a colored plate. Lea Brothers & Co., Philadelphia and New York. Issued quarterly. Price, $10.00 per year.

This book is quite as good as its predecessors. It is a thoroughly readable volume; deals with the every day affairs of medical life; is practical, therefore. It will be welcomed as a key to the medical literature of the year.

ON DIABETES MELLITUS AND GLYCOSURIA. By Emil Kleen, Ph.D., M.D. Octavo, 313 pages. Price, cloth, net, $2.50. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia.

The author of this work is a physician of large experience and has devoted special study to the glycosuria dystrophy with its manifold complications. The different forms of simple glycosuria and the etiological factors in each are carefully described and then the symptoms and complications of mild and severe diabetes are taken up as they occur in the adult and the infant. The question of metabolism and nutritive needs is very carefully handled. The reader is instructed how to investigate a case of diabetes and how to treat it. An extensive index makes the work one of ready reference. It is a book that every practitioner ought to read.

CONSUMPTION AND CHRONIC DISEASES, a Hygienic Cure at Patient's Home of Incipient and Advanced Cases. A Popular Exposition of the "Open-Air Treatment" with latest Developments and Improvements. By Emmet Densmore, M.D. London: Swan, Sonnenschein & Co. New York: The Stillman Publishing Co., 15 Sterling Place, Borough of Brooklyn.

In this book we are treated to a rambling account of what has been accomplished in certain cases of "consumption" by putting the patient to bed in a room with windows open night and day and feeding him on four or more quarts of milk daily. The treatment as carried out in Sanatoria, in Harrison, N. Y., the Black Forest, Germany; the Mendif Hills, in Somersetshire, England, and St. Michael's Home, Oxbridge, is described in a number of chapters. Then we are given numerous suggestions as to food, clothing, exercise and lung expansion.

The following paragraph, on page 158, amuses us: "The usual habit of warming one's self by a fire—an open grate, a stove, a steam or water radiator, or a register from a furnace—is unphysiological and unwholesome. When one comes in from a ride in cold air or feels cold from any other exposure, one is warmed more quickly and more effectively by slowly walking up and down a flight of stairs than by sitting down by a fire." Having read on page 181: "In attacks of illness extreme solicitude on the part of the patient or his friends is often a serious hindrance to recovery. The head of every family ought to be provided with a blood thermometer. It is not necessary to be a physician or a scientist or a scholar to be able to ascertain the temperature of one who has been attacked with illness. As long as the pulsation does not exceed 120 to the minute and as long as the temperature is not raised beyond 102° or 103°, there is no occasion for solicitude if the simple dictates of hygiene are followed; and great numbers of people would be spared undue solicitude by this simple method of taking the patient's pulsation and temperature." We refer to the title page and are astonished to find the author has an M.D. Such advice sounds like "Christian Science." Again on page 195 is the following: "Obedience to the laws of hygiene and physiology is all that is necessary for the restoration and maintenance of health."

The suggestion that all medicine is harmful is made several times. If this book is correct, Patrick's admonition to his dying brother was secundum artem, if not very encouraging, "only drink milk and keep *breathing* and there'll be no danger."

INJURIES TO THE EYE IN THEIR MEDICO-LEGAL ASPECT. By S. Baudry, M.D. Professor in the Faculty of Medicine, University of Lille, France, etc. Translated from the original by Alfred James Ostheimer, Jr., M.D., of Philadelphia, Pa. Revised and edited by Charles A. Oliver, A.M., M.D. Attending Surgeon to the Wills Eye Hospital.

With an adaptation of the Medico-Legal Chapter to the Courts of the United States of America, by Charles Sinkler, Esq., Member of the Philadelphia Bar. Pages, x-161. Extra Cloth, $1.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia, Pa.

This work can truly be said to fill the traditional "Long felt want." Inasmuch as oculists are liable, at any time, to be called into court to testify regarding injuries to the eye, it is a convenience to have a reference hand-book to consult. The book contains many practical hints which would doubtless aid the medical witness when undergoing the barbaric tortures of the witness-stand.

James W. Ingalls.

MONOGRAPHS RECEIVED.

Powers (C. A.). Methods and results in 450 cases of fracture of the forearm bones. 23 p. 8°.

Wound of the urinary tract during an operation for acute appendicitis. 3 p. 8°.

Repr. Tr. Am. Surg. Assoc., 1899.

Conical stump after amputation in childhood. 3 p. 8°.

Repr. Ann. Surg., Apr., 1900.

Methods and results in 175 cases of simple fracture of the femur. 8 p. 8°.

Repr. Colorado M. J., June, 1899.

McCaskey (G. W.). Neurasthenia: some points in its pathology and treatment. 16 p. 8°.

Repr. J. Am. M. Assoc., June 16, 1900.

Report of a case of tumor of the cerebellum with drainage of fluid through the nose. 14 p. 12°.

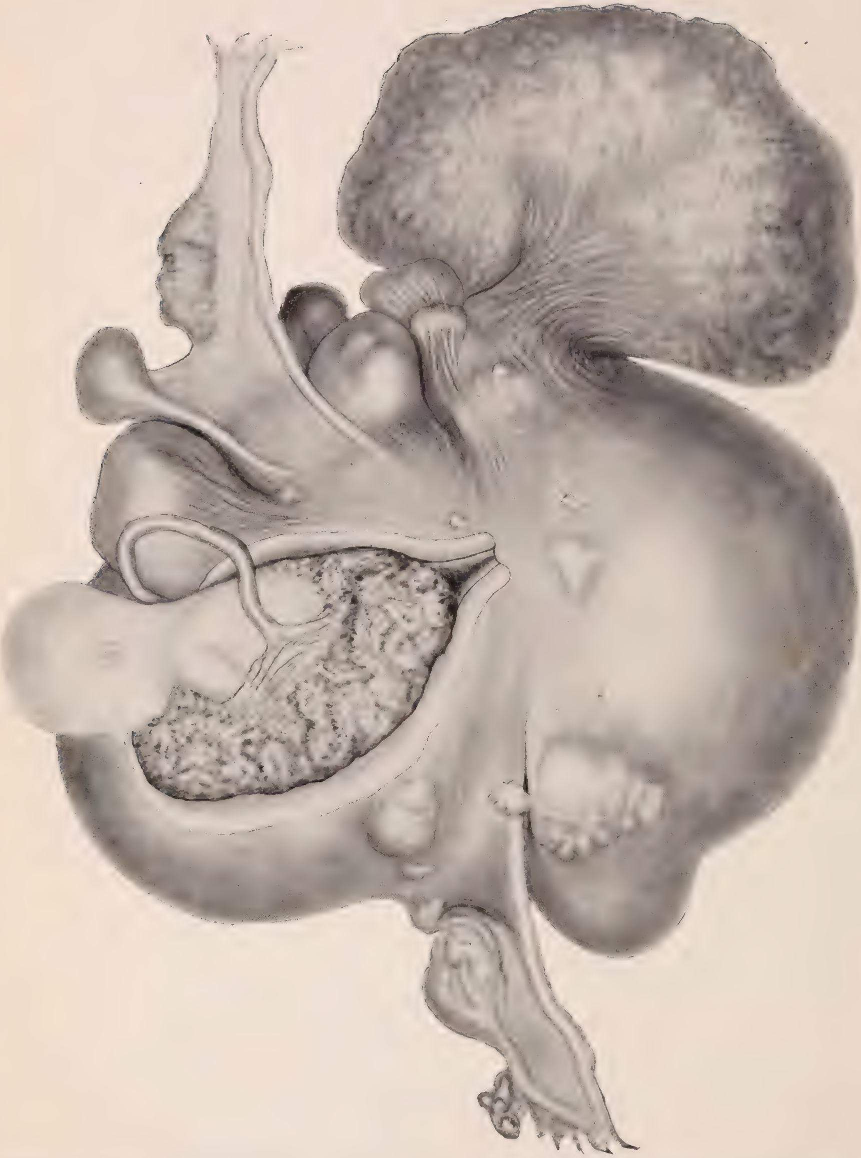
Repr. New York M. J., March 31, 1900.

Lerch (O.). A type of enteric fever—not typhoid. 10 p. 8°.

Repr. New Orleans M. and S. J., Feb., 1900.

XIII. Congrès international de médecine. Résumés des rapports présentés à la section de:

Laryngologie et rhinologie. Paris, Masson, 1900. 30 p. 8°.
Médecine de l'enfance. Paris, Masson, 1900. 48 p. 8°.
Pathologie interne. Paris, Masson, 1900. 29 p. 8°.
Chirurgie générale. Paris, Masson, 1900. 32 p. 8°.
Chirurgie de l'enfance. Paris, Masson, 1900. 18 p. 8°.
Chirurgie urinaire. Paris, Masson, 1900. 30 p. 8°.



PREGNANCY OCCURRING IN CONNECTION WITH MYOFIBROMATA OF THE UTERUS.

Presented by ALEXANDER J. C. SKENE, M.D., LL.D.

Showing relation of Uterus, Myofibromata, Fetus and Placenta.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 412th Stated Meeting, Thursday, March 8, 1900.

The President, Charles C. Henry, M.D., in the Chair.

Program.

SECTION VI.—HENRY A. FAIRBAIRN, A.B., M.D., CHAIRMAN.

The Management of Pregnancy Occurring in Connection with Myofibromata of the Uterus; Specimen (Illustrated) 722
Alexander J. C. Skene, M.D., LL.D.

The Death of Dr. Alexander J. C. Skene—Editorial 729

Uterus; Fibroma Involving the Entire Uterine Tissue; Specimen 730
George G. Hopkins, M.D.

Uterus; Hematoma Attached to the Cervix; Specimen 731
George G. Hopkins, M.D.

Ovary; Hematoma; Specimen 731
Frederic J. Shoop, M.D.

Ovary; Cystoma with Torsion of the Pedicle; Specimen 732
Frederick A. Wunderlich, M.D.

Pregnancy; Human Embryo ⅛ Inch Long; Specimen 733
J. Edward Herman, M.D.

Pregnancy; Ectopic Gestation (Cornual); Specimen 734
William Waterworth, M.D.

Pregnancy; Ectopic Gestation (Tubal); Specimen 736
Z. F. Dunning, M.D.

Pregnancy; Rupture of the Peritoneum During Labor; Specimen 738
William A. Payne, M.D.

The Management of Pregnancy Occurring in Connection with Myofibromata of the Uterus.

Alexander J. C. Skene, M.D., LL.D.

Fortunately fibromata of the uterus cause sterility in the great majority of instances. In fact, sterility is the rule in the submucous variety of these neoplasms—that is to say, when the tumor is located in the inner layer of the muscular coat of the uterine wall. Occasionally, though very rarely, pregnancy occurs in connection with myofibroma in the middle layer of the muscular coat, but in most cases of pregnancy associated with myofibromata the tumor is situated in the outer layer of the middle coat of the wall of the uterus. This indicates that the position of these tumors in the structure of the uterus has much to do with the cause of sterility. This may be formulated as follows: In the submucous variety of myofibromata, pregnancy is exceedingly rare, less so in the interstitial, and most common in the subperitoneal varieties.

The size and location of these tumors are also the chief factors in causing the complications which demand special treatment. The presence of small tumors of the subperitoneal variety does not as a rule seriously complicate pregnancy or labor. It is safe as a rule to let the gestation go on in such cases. In the early months of gestation conditions often arise which require attention. The neoplasm generally causes displacement of the uterus, which aggravates the reflex disturbances of pregnancy and prevents the uterus from rising up out of the pelvis as it increases in size. To state this in another way: Myofibromata of small size often produce incarceration of the uterus in the pelvis during the first month of gestation, and if not relieved promptly, become dangerous. Replacing the uterus and keeping it in the best possible position gives relief, and the gestation goes on to time. Labor is not interfered with when the tumor is separated from the wall of the uterus (by the process of pedunculation) sufficiently to permit equal muscular contraction. When the tumor is closely connected with the muscular wall of the uterus, expulsive contractions are inefficient and aid to delivery is required.

I have in mind now five cases of pregnancy accompanied with subperitoneal fibromata that went to full time. In two of them the labor was somewhat tedious, but ended normally; two required forceps delivery owing to inefficient uterine contractions, and one, having a sessile tumor about four inches in diameter, was delivered by version. All of these recovered and the tumors diminished in size during post-partum involution.

Tumors larger in size than those referred to above are more dangerous to pregnant women. This is especially so when the tumor is connected wholly or in part with the middle layer of the muscular coat of the uterine wall. Such cases never go to the full time of gestation. They either miscarry or die from secondary affections. Miscarriage under such circumstances is very dangerous. I remember several cases of this kind that came under my care years ago and were sufficiently difficult to manage to impress upon me the need for more efficient means of treatment. In one there were several tumors. One, the largest, was attached to the posterior wall of the uterus, several small ones were situated here and there. The patient suffered very little from these neoplasms until she became pregnant. Then she had much pain in the uterus and great nausea. By keeping her quiet and using all the ordinary medical means of giving relief, her physician kept her along until four and a half months. Then she was taken with uterine pain and profuse hemorrhage. I then saw her and found the cervix undilated. The hemorrhage was partly controlled by tamponing and the uterine pain made bearable by the free use of anodynes. The hemorrhage continued, but the cervix was very slow in dilating. The vaginal tampons did not fully stop the bleeding, and in order to arrest it and help the dilatation, it was necessary to pack the cervix repeatedly. When sufficient dilatation was obtained, the ovum presented, but was not wholly expelled so it became necessary to empty the uterus. This was difficult owing to the uterus being high up and crowded forward; but by the use of forceps and scoop, the delivery was completed. The hemorrhage during and after the delivery was alarmingly profuse, and as the contraction of the uterus was imperfect, it was necessary to pack the uterus to save the patient from bleeding to death. Considerable fever followed, owing, I presume, to sepsis from the unclean packing and the acute anemia. The patient recovered, but more by good luck than efficient management.

About this time there came another case (having a tumor about the size of an orange) who miscarried at the fourth month. She began with having uterine pain of a mild form and free hemorrhage, which had to be controlled by tamponing for over forty-eight hours. Then the bleeding diminished and the pains became severe, and at the end of twenty-four hours more she expelled the fetus and placenta. There were free post-partum hemorrhages, but they were controlled by ergot and manipulation. The patient was left quite weak and a mild metritis followed, which continued until she passed from my care.

Bad as these cases were, others far worse came my way. One was the wife of a physician, a delicate lady, who had suffered for years from an abdominal tumor. Her menses stopped and the tumor, which had remained about the same for some years, began to grow faster. The suppression of the menses was attributed to her anemia and malnutrition, but the rapid enlargement of the abdominal tumor alarmed the doctor. When I saw her first there was a large nodular tumor filling in the lower two-thirds of the abdomen and there was considerable free fluid in the peritoneal cavity. All the nodules or sections of the tumor were round, smooth, and solid, excepting a portion which I took to be the body of the uterus, which was somewhat soft, elastic, and obscurely fluctuating. Pregnancy was suspected, but as there were none of the positive signs of gestation present, the doctor did not fall in with my diagnosis. An obstetrician of note was called in, and after several examinations decided that she was not pregnant, but had a fibrocystic tumor or else a fibroid tumor of the uterus and a cystic tumor of the ovary. The tumor kept on growing, and her health failed. The stomach and kidneys did badly and finally some peritoneal inflammation came and ended the life history. At the post-mortem examination, a five-months' gestation was found. From the close relations of the tumors to the wall of the uterus and the obstruction of the canal at the junction of the body and cervix, I am confident that the uterus could not have been safely emptied by any efforts on the part of the patient or the obstetrician. This opinion is based upon experiences in similar cases in which the process of emptying the uterus began, but ended fatally. I remember that the late Dr. Lusk presented to the New York Obstetrical Society a uterus with the history that the specimen came from a patient who had become pregnant while she was carrying the tumors presented in the specimen. The gestation went on to about four months and a half. The process of miscarriage began, but progressed so slowly and was attended with such free hemorrhage that it was necessary to interfere. To empty the uterus was exceedingly difficult owing to its malposition, the deflection of the canal, and its inability to contract owing to the broad and deep attachment of the tumors to its wall. In fact, a portion of the placenta could not be removed by Dr. Lusk with all his expert skill. This portion of the placenta was found in a pocket of the distorted uterus and it was shown in the specimen to be a mechanical impossibility to bring it away. The patient died of exhaustion and sepsis, as I remember the history.

A careful study of the cases given here, and others that have come under observation, has prompted me to classify myofibromata of the uterus in relation to child-bearing, as follows:

First.—Submucous tumors, large or small, cause sterility as a rule. (I have only seen one exception.)

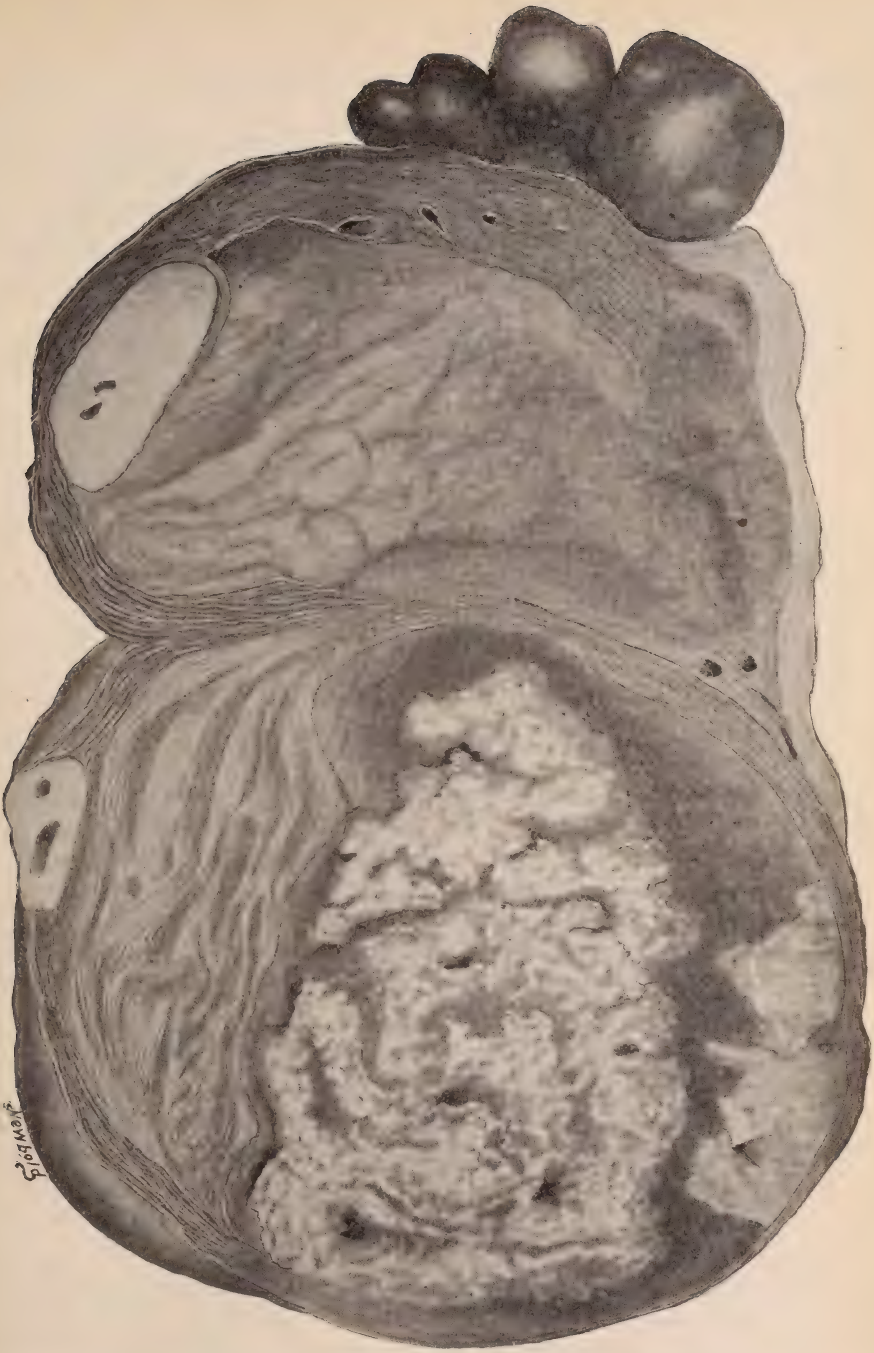
Second.—Small subperitoneal myofibromata do not always cause sterility nor complicate child-bearing to a very dangerous degree.

Third.—Interstitial tumors, unless so small that they cannot be detected, and large subperitoneal tumors closely connected with the muscular tissue of the uterus do not cause sterility in all cases, but they are most dangerous complications of gestation, because they predispose to miscarriage and render delivery always difficult, often impossible, and always exceedingly dangerous. This classification facilitated the adaptation of treatment to the indications presented in each class. Therefore, according to present opinions, the first class is to be left out of account in this discussion. The second class requires attention in the first months of gestation in order to keep the uterus in position and aid in its escape from the pelvis up to the abdominal cavity, and finally they may require help in delivery and special protection from post-partum hemorrhage. The third class demands hysterectomy as the surest means of saving them. This statement is made with a full appreciation of the fact that some cases of this kind have miscarried and lived—hence, the extremely conservative practitioners might argue that because a few escape with their lives all should be permitted to take the risk of miscarriage. But in opposition to this is the fact that those who live through a miscarriage are few and that few are left with their tumors, which always impair health and usefulness, and many of them eventually require hysterectomy to save their lives. Now, while I cannot follow the lead of the dangerously conservative and am equally opposed to the daring and aggressive surgeons who see cause to do hysterectomy in all cases of myofibromata which require any treatment at all, I still insist upon the statement already made that all cases of gestation in connection with myofibromata that gave no promise of going to full time should be subjected to hysterectomy.

To differentiate those that should be operated upon and those who should be left alone is not very difficult. By keeping in mind the conditions present in those cases related who went to full time and were safely delivered, and those who failed to complete gestation by miscarrying, correct conclusions can be arrived at with reasonable certainty.

The time to operate in cases which require hysterectomy is still a question for consideration. In general terms it may be stated that when gestation has been diagnosticated in cases of the third class given above, the operation should be done. There are those who refrain from sacrificing a living embryo or fetus for any reason or purpose, and I am guided by this principle myself to a degree. Therefore, hysterectomy should not be undertaken until there is evidence that the product of conception is no longer living. According to my observation, the embryo died some time before the end of the fifth month, and when in consequence of this the first indications of a miscarriage appear, then is the time to operate. The following history of a case in point will answer the purpose of a recapitulation of the important facts relating to the subject.

This patient was a well-developed, strong lady who had always had good health. She was 36 years old when she came under my observation, and had been married four years. About a year before this she had noticed that her abdomen had become larger than formerly, but having perfect health she paid no further attention to herself until eight months afterwards—that is, on July 13, 1899. That was the time for her menstruation, but it did not appear. As she was still quite well, she waited to see if the menses would return, but the amenorrhea continued and the abdominal enlargement became more noticeable. These conditions induced her to seek advice on September 28th. Her health was excellent, her digestion and general nutrition were normal, and she had no pain or discomfort. At the examination then made, an irregular, hard, nodular tumor was found which extended above the umbilicus about two inches. The tumor was made up of three large masses and several small ones. One of the larger masses was slightly movable upon its attachment to the main body of the tumor; another mass was soft, elastic, and obscurely fluctuating. This mass was in front, and inclined a little to one side. By the vaginal touch the uterus was found to



PREGNANCY OCCURRING IN CONNECTION WITH MYOFIBROMATA OF THE UTERUS.

Presented by Alexander J. C. Skene, M.D., LL.D.,

Showing section of one-half of the uterus and tumor, with portions of the placenta in position.

occupy the front of the tumor. The cervix uteri was of virgin size, shape, and density, and the os externum was smaller than normal and was not congested or changed in color to any noticeable degree. The mammary glands had not become enlarged and, though there were changes in the areola, they were not more marked than is generally found in cases of myofibromata of the uterus. There were none of the signs or symptoms of pregnancy present excepting the amenorrhea and the enlarged and softened uterus—that is, admitting that the soft mass in front was the uterus.

Fig. 1, a front view of the tumor, shows the relations of the uterus to the myofibromata. The uterus has been laid open to show the fetus and placenta. The question in diagnosis between fibrocystic tumor and gestation and myofibromata was decided in favor of gestation. The patient continued in good health, but the uterus increased in size so that all doubt about the diagnosis disappeared. She was directed to report at once if there was any pain or hemorrhage from the uterus.

Irregular, intermittent pain in the uterus came on October 27th and continued for about two days and then subsided, leaving only a slight tenderness. This was taken as evidence that the fetus had died and an effort had been made to throw it off, and that then was the time for surgical treatment. Subsequent examination of the specimen proved this to be the facts in the case. Hysterectomy was performed December 11, 1899, and the recovery was the easiest and most uneventful that has ever come under my observation.

Fig. 2 represents a section of the tumor, including one-half of the uterus, with portions of the placenta in position. The uterus is distended, and from the connections of the uterine wall with the tumor, it is evident that the uterus could not contract sufficiently to expel its contents or control post-partum hemorrhage.

167 Clinton Street.

DISCUSSION.

Dr. Sewall Matheson stated that he had been privileged to follow the progress of this last-mentioned patient of Dr. Skene from the time when she had first applied for consultation until her discharge from the sanatorium entirely recovered from the final operation.

Fortunately, women suffering from a condition such as here existed rarely become pregnant. If pregnancy does occur a diagnosis of the superadded condition becomes, as a rule, extremely difficult, because of the size of the primary tumor, the anomalous form that the uterus usually possesses as a result of the tumor and consequent inability of the uterine wall to symmetrically develop, and because of the absence of the more common signs of pregnancy.

When the true condition is diagnosed and attempts have been made to empty the uterus, many cases have terminated fatally owing to the inability to control the profuse hemorrhage which not infrequently results or to the development of sepsis from an incomplete emptying of the uterine cavity.

The Death of Alexander J. C. Skene.

Alexander J. C. Skene died suddenly at his summer home in the Catskills, July 4, 1900.

At the time of his death Dr. Skene was 62 years of age. He had been a practitioner of medicine in this city since 1863, and from that time until his death his career has been marked by merited success and well-earned laurels attained by but few of his profession.

As a surgeon in the Civil War he served his adopted country with courage and enthusiasm, and the organization of the Army Hospital Corps is, in a great measure, a practical result of his personal endeavors.

His connection with the Long Island College Hospital has been intimate and continuous. In various official capacities, including the presidency, he has constantly aided its progress and assisted in establishing its present rank among medical colleges.

As a teacher he trained and inspired hundreds of students who, when later engaged in the practise of their profession, were proud to be numbered among his many friends.

As a practitioner he early became interested in the relief of the diseases peculiar to women. His work as a pioneer in gynecology soon brought him into prominence and his published writings upon this branch of surgery have for years been recognized as authoritative at home and abroad.

His accuracy as a diagnostician and his skill as an operator have long been appreciated by his professional brethren. His services were in constant demand in both hospital and private practise, and the unusual amount of work thus forced upon him was doubtless a factor in causing his unexpected death.

In science, in art, and in literature his contributions were by no means few, and he had achieved distinction here as well as in matters purely professional.

He was such a minister of life that death is a difficult word or fact to realize in his case. He so completely personified the strength, calm, self-poise, firmness, clear-sightedness, largeheartedness, accurate judgment, innate refinement and the union of friendly sympathy with paternal authority which distinguishes the best representatives of his sacred profession that the members of it looked unto him as unto a leader, and those who were the subjects of his advice went to him with a confidence and remembered him with an affection which made their tribute his crown, and which will here always make the memory of him gracious, sweet, helpful, and strong.

He was a very learned man, with no affectation of learning. He was a very powerful man, to whom simplicity was as natural as pedantry was impossible. He was a very dignified man, of whom manner was the outcome of great qualities and concerning whom manners in the sense of arts would never be recalled or suggested. He was a very tender man, but, like the Scot that he was, his tenderness was infusive rather than effusive, and it was the servant of his strength and the capricious master neither of his hand nor of his head nor of his heart."

Since 1872 he has been a member of this Society. His contributions have been many and valuable. The foregoing article was read before us but a few months ago and in June it was printed in the *American Gynecological and Obstetrical Journal*, to the courtesy of whose editor we are indebted for the illustrations which are here reproduced. It was one of the last, if not the very last, contributions upon a medical subject which the author presented before a Brooklyn audience. Fame, fortune, and friends were his. His loss is a national one, but nowhere will it be more keenly and permanently felt than by the members of this Society whose meetings he honored by his presence and with whose history he has been so close identified during the entire period of its existence.

369 Hancock Street.

Uterus; Fibroma involving the Entire Uterine Tissue; Specimen.

George G. Hopkins, M.D.

The fibroid tumor which I present involves the uterus and seems to have replaced the entire tissue of the organ; hardly any true uterine tissue remains. It is a very peculiar growth. The woman suffered from intense pain in the abdominal region; this tumor was found and removed. Her recovery from the operation was uneventful, and her relief from her distressing symptoms now appears assured.

350 Washington Avenue.

Uterus; Hematoma Attached to the Cervix; Specimen.

George G. Hopkins, M.D.

This woman has been under my care in consultation for about five years. She is a regular patient of Dr. Peterman. I was first called to see her for a tumor contained in the uterus, which Dr. Seymour pronounced, after its removal, as an organized blood-clot, although it was attached like a polypoid tumor to the inner neck of the uterus and caused excessive hemorrhage. I removed the mass at St. John's Hospital about five years ago. The woman nearly bled to death before this tumor presented itself sufficiently in the vagina to be diagnosed.

She went home, became pregnant, and bore a child, and Dr. Peterman two years afterward asked me to see her again. At this time she was flooding and I found attached to the anterior lip of the uterus a tumor as large as a child's head. This we removed; it gave the appearance of an organized blood-clot, but like the former growth was pedunculated and was attached to the cervix.

In March, 1899, she came under my care again and she now had this cyst attached to the neck of the uterus. This solid tumor was removed and both ovaries, each of which seemed to be diseased. It is now nearly a year since the operation and she is very comfortable and doing well. She has ceased to menstruate and is in comfortable health.

350 Washington Avenue.

Ovary; Hematoma; Specimen.

Frederic J. Shoop, M.D.

The patient from whom this specimen was removed came to me with the history of chronic salpingitis. I used local applications in the endeavor to give her the necessary relief without operation, but she continued to suffer from the symptoms of which she first complained; pain on the right side, especially severe at the menstrual epoch, and continuing throughout the whole period, sometimes a little worse just at the close of it. When first examined a mass blocked up the left side, with considerable local inflammation and adhesions. This I reduced somewhat by the use of ichthyol and glycerine and then mapped out what seemed to be a very large ovary and tube, somewhat tender to the touch. This examination, though carefully made, seemed to set up some further trouble; she had severe pain the next day and had to keep to bed. Menorrhagia then set in at about the menstrual epoch; when it subsided she was operated upon at the Central Hospital, on the 23d of September. I removed both ovaries and tubes, and in the left ovary was included this hematoma.

She had been suffering from chronic salpingitis for several years, and had failed to get relief. The left tube was tortuous, hard, and dense; I could barely pass a fine bristle through the openings. The right tube was the site of subacute salpingitis, was enlarged, and held about three or four drams of glairy mucus —a condition of hydrosalpinx. The right ovary was contracted and atrophied; the left one, with its tube, was bound down by strong adhesions, which were difficult to loosen. The adhesions were probably the cause of the pain she suffered.

146 South Portland Avenue.

DISCUSSION.

Dr. de Forest: It has been my fortune, or misfortune, to have seen a number of ovaries removed for what has been called a hematoma of the ovary, which was really nothing but a large corpus luteum. That is one of the results of over-enthusiastic abdominal surgery.

Dr. Shoop: I am glad Dr. de Forest has spoken of conservative work in gynecology and overzealousness on the part of operators. I am sure if he had seen my own case on the table and had seen the organs before they were removed, he would not have called it over-zealous surgery to remove the tubes and ovaries in that case, at least.

Ovary; Cystoma with Torsion of Pedicle; Specimen.

Frederick A. Wunderlich, M.D.

This case interested me particularly because it came under my observation when it must have been only a partial torsion. The patient had pain for about six days; then the torsion must have been reduced to a certain extent, because the pain then ceased and she did her housework for six days. There was then a return of the torsion and pain of a more acute character with symptoms of collapse. I sent her at once to the hospital, operated the next day and found that, while the pain had been pronounced on the right side in the ileocecal region, the tumor or cyst arose from the right ovary, but was twisted and lay upon the left side of the uterus, making the diagnosis rather difficult. I supposed when I saw her first that she had a cyst or tumor connected with the left ovary, and that I had to deal with a case of appendicitis, but when the second attack came on I was convinced there must be some other lesion present. The diagnosis was more easily made when she was under the anesthetic. When the abdominal muscles were perfectly relaxed I was convinced that probably I had to deal with an ovarian cystoma, with torsion of the pedicle.

The twist was from left to right, and one complete turn. As the specimen will show, there was hemorrhage into the ovary and also hemorrhage into the cyst and into the wall of the cyst. When the abdominal cavity was opened there was quite an amount of bloody serum. I had to pass the ligature very close to the uterus in order to get into tissue that would hold, but by passing a double ligature of catgut around the two parts, I removed it, and the further progress of the case was uneventful. She recovered without any further trouble except a small stitch abscess, which is now entirely well.

165 Remsen Street.

Pregnancy; Human Embyro ⅛ of an Inch Long; Specimen.

J. Edward Herman, M.D.

The woman who aborted this embryo has had six children; five are still living, including the last, born about three years ago. I attended her in that confinement, which was perfectly normal. She never had any abortions or miscarriages; she has menstruated regularly for the last two years.

In January her menstrual flow came on three days late; in February she commenced to menstruate at the regular time and in the usual way. On the third day of menstruation she was doing a great deal of very heavy work—washing, lifting and carrying heavy tubs of water—and while out in the back yard, reaching up to a rather high clothes-line, she felt something give way, and a profuse gush of blood came from the vagina. She rushed to the kitchen and passed considerable blood, and when I saw her three hours afterward, among the clotted blood in the chamber-vessel I found an entire ovum; that is, the egg was complete and had not ruptured. Within the ovum I found this embryo, which measures one-eighth of an inch in length.

As far as I can learn this is one of the smallest embryos that has ever been described, and judging from the history of the case and comparing the measurements of embryos it must be somewhere between fourteen and twenty-one days old. Winckel describes and pictures one specimen, which he says was fourteen days old, and his measurement makes it about one-seventh of an inch in length; this is one-eighth.

The following day the woman passed the entire decidual cast, which I show you, representing the interior of the uterus, about an inch and a half in length and includes the decidua, ovum, and the embryo, and I have placed inside the decidua the ovum itself.

(Dr. Herman then demonstrated the specimen and exhibited a microscopic slide of a section of the embryo.)

1098 Bushwick Avenue.

Ectopic Gestation (Cornual); Specimen.

William Waterworth, M.D.

Mrs. B., aged 39 years, of German descent. Had been delivered of three live children and two still-births. She was quite stout and had thick abdominal walls.

About three weeks after having had a scanty menstrual flow, she began to complain of frequent pains in the right inguinal region. After a second scanty flow, the pains became more frequent and severe. At this time I was consulted. An examination only revealed the facts that the uterus was slightly enlarged and the cervix thickened.

About one week later, the patient began to have hemorrhages, which were not profuse. At this time, and on two succeeding occasions, Dr. McCullom was called in to see the case with me. As a result of these examinations there was a suspicion that we had to deal with a case of extra-uterine pregnancy, yet we could not make out a tumor in the groin. The os became patulous and the uterus less movable. As the case advanced the pains became more severe and more frequent, so that their effect could be seen upon the constitution of the patient. The flow was such that it was necessary to confine the patient in bed. This did not check it, but it was less profuse. Electric applications were made within the uterus, but without effect.

Finally, one afternoon I was sent for in great haste. On arriving at the bedside, I found the patient having labor pains. Passing my finger into the vagina I found the os dilated so that

I could pass it into the uterus. In the upper part of the uterine cavity I found a small bag of water suspended. This ruptured readily when my finger pressed against it. Then I passed my finger up to the fundus. There, protruding from the right cornual tube, I felt what I took for a knee or elbow of a fetus. By manipulating this with my finger I was able to deliver a fetus of three-months' growth.

Collins and Wilkins remark "that cornual pregnancy is rare; but that, when it is encountered, rupture takes place between the fourth and fifth months, the patient dying with signs of internal hemorrhages. Some, however, advance to term." Our case followed neither of these courses. The clinical history of pain, menstrual flow, and time of delivery is almost synonymous with that of tubal pregnancy. Many of the tubal pregnancies are irregular and intermittent in the menstrual flow, yet a large per cent. are regular. Much stress is placed upon the fact that the blood is dark and thick in consistency. A prolonged hemorrhage at some time during the first three months is pretty sure to occur. This symptom, together with pains of their own peculiar kind and location, are the strong diagnostic points of tubal or cornual pregnancy. A tubal pregnancy can more easily be mapped out by external and internal palpation, but the cornual form of this trouble is most difficult when the patient is stout and the abdominal walls thick.

When first felt with the examining finger the bag of waters was hanging down inside the uterus, entirely away from the os and cervix; it did not come down to the os, as it would in miscarriage. In this case the symptoms were such that we had diagnosed a tubal pregnancy, having all the symptoms except that of being able to map out the tumor; a pregnancy in one of the cornu was not suspected. These cases are rare.

The cause of tubal pregnancy is commonly given as due to some exudate and binding down of the Fallopian tube, or to some adherence which prevents communication between the ovary and the uterus, but here, when you come to cornual pregnancy, it sets aside those objections; it is not a pathological difficulty; it would seem to be more like a freak of Nature. The fecundated ovum is deposited there and stays there, and in this case there were labor pains. I could not catch my finger in it and hasten it along any, but the presence of my finger in the uterus would bring on those pains and you would feel it make an advance out of this tube just as the fetus would be expelled from the uterus;

the result here was certainly very satisfactory. The treatment given for this is amputation of one of the cornua of the uterus, but it is more satisfactory to have a case terminate as this did.

1 Hancock Street.

DISCUSSION.

Dr. Williams remarked that in cornual pregnancy we are liable to have many symptoms characteristic of tubal pregnancy, for the majority of cases of tubal pregnancy, in his experience, were met with after the third month, and in most of them the membranes had ruptured, and hemorrhage and the resultant symptoms had developed.

He had never seen a case of cornual pregnancy and thought it would be a hard case to diagnose, because many of the symptoms, even to the pains, must be characteristic of tubal pregnancy.

Pregnancy; Ectopic Gestation (Tubal); Specimen.

Z. F. Dunning, M.D.

This patient I saw twice. For thirty-six hours before my first visit she had suffered severe pain in the lower part of the abdomen. Late in the evening I was called, but could not make out the trouble. She had missed one menstrual period and supposed herself seven weeks pregnant.

The following morning she was at the point of death and died about forty-two hours after the attack began.

An autopsy was held and the abdomen found to be filled with blood. One tube was distended and from it the hemorrhage had occurred. Upon opening the tube the fetus, of small size, was found within it. From the size of the fetus it is probable that pregnancy had existed longer than the menstrual history would indicate—probably nearly three months.

238 Arlington Avenue.

DISCUSSION.

Dr. de Forest: There is to be seen the corpus luteum very plainly marked in the ovary, immediately adjacent to the tube in which the conception occurred, and in the other ovary there is a previous corpus luteum of perhaps three-months' standing; fatty degeneration has occurred, and the color-picture is not well differentiated.

Dr. Bristow: I have had one or two interesting cases of extra-uterine pregnancy recently. One case, which I operated upon early in November at St. John's Hospital, had the following history: The lady in question had menstruated regularly until August; in August she was a week late. She then, while hanging pictures, felt something give away; what she supposed to be menstruation then came on and continued much longer than usual. She went to the country in September and the flow still continuing, she was seen by a gentleman in the country, who desired to curette her. A day or two before the curetting she was seized with violent pain in the right side. There was no collapse at all; no symptoms of loss of blood. She was curetted at the time appointed, a day or two afterwards. The gentleman who curetted her told her that there was some thickening on the right side. She subsequently came to this city and I saw her in consultation in November. At that time she had been invalided since August. Her temperature when I saw her was 101.6°; had this accident. Her temperature when I saw her was 101.6°; right lower abdomen was very tender over the region of the appendix, so there was a question as to whether there might not be an appendical element. Vaginal examination showed a large mass in the pelvis to the right of the uterus. I made a median section the next day, as I judged the case was one that was urgent, and turned out a mass of broken-down clots to the right of the uterus. I found the omentum had become much inflamed and had walled off this mass of clots from the general abdominal cavity. I found the ruptured tube and the place where the fetus had been, removed both tube and ovary, and drained the sac; she made a prompt recovery.

The interesting feature of the case lies in the fact that the rupture of this tubal pregnancy had taken place early, an effusion of blood had taken place into the pelvis, not sufficient to produce any symptoms of collapse, and she was curetted under an entire misapprehension of the cause of the trouble. Because of the clots subsequently breaking down from probable infection, she came again under the care of the surgeon, who recognized the true condition of affairs, and operated.

I had another similar case which, unfortunately, I was obliged to hand over to those troublesome people who take away lawful prey from the general surgeon—I refer to the gynecologists. This woman was brought into my surgical service at the Long Island College Hospital last week, said to be suffering from appendicitis, with the following history: That she also had been a week late, although she was usually regular; that she had been then seized with violent pains in the right lower abdomen and was, a few days afterward, brought into the hospital. I saw her on Saturday night about nine o'clock and her temperature was then 100.6°. I made an examination and excluded appendicitis, because there was no rigidity of the right rectus muscle, for in tubal trouble you do not get the rigidity of this muscle that you do in the case of appendicitis, even where the appendical inflammation is much less than the corresponding tubal inflammation. The menstrual history in this case was the same as in the former one; the flow, when it did come on, had continued long beyond its usual time—she had been flowing ten days when she came in—the pelvic examination revealed nothing except increased resistance, very high up on the side a good deal of tenderness, but a very soft cervix, much resembling the cervix of pregnancy.

In both these cases of extra-uterine pregnancy there was an early rupture, without symptoms of collapse. Both cases must have ruptured before seven weeks, because both women had menstruated the preceding month regularly and had simply missed a week; I should say rupture probably occurred in the sixth week.

Dr. de Forest: That does not necessarily follow; in many cases of extra-uterine pregnancy the menstruation is not interrupted.

Dr. Bristow: There is an irregularity.

Dr. de Forest: There is sometimes, but not always, and I should think it difficult to decide on the period without estimates made on the size of the fetus. I hardly see how you can get the time from the menstrual history alone, because a menstruation might vary within two or three month's limitation, as long as the uterus itself was free. The fetus in Dr. Dunning's specimen is a month older than the menstrual history would indicate.

Pregnancy; Rupture of the Peritoneum During Labor; Specimen.

William A. Payne, M.D.

This woman was in the hands of a midwife about three days and finally a doctor was called in. The doctor sent the woman almost immediately to the hospital. I think, however, that forceps had been used in their endeavor to extract the child. When the woman was brought to the hospital her condition was very poor and she was dying. The child was successfully removed but the woman died a short time after. On the autopsy we found the condition here: the rupture of the peritoneum occurred between the uterus behind and the bladder in front. This tear is irregular, about twenty centimeters in length, but only involves the anterior fornix of the vagina and extends from the right side of the cervix to about the middle of the cervix in front.

This case shows the damage that can be done with forceps, for it is the general impression at the hospital that this tear was produced by forceps, one blade of which grasped the anterior lip of the cervix in the fornix, though the hand or something else introduced into the vagina in the endeavor to extract the child might have caused the laceration.

Kings County Hospital.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 10.
WHOLE No. 154.

BROOKLYN, N. Y., OCTOBER, 1900.

Single copies 25 cents
$2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

OBSERVATIONS ON THE OBSTETRIC SURGERY OF PELVIC CONTRACTION.

BY CHAS. JEWETT, M.D.

Read Jan. 5, 1900, at the Polhemus Memorial Clinic, before a joint meeting of the Brooklyn Gynecological Society, The Medical Society of the County of Kings, and The Kings County Medical Association.

Pelvic contraction as a complication of labor is commonly looked upon in this country as one of the curiosities of obstetric practice. It is generally believed that the occurrence of pelvic deformities is much less frequent in America than in Europe and is practically unknown in native-born women. This belief is apparently sustained by general experience and is the teaching of most systematic writers on obstetrics.

It is not strange that for the general practitioner the subject possesses little more than a scientific interest and is passed by as a matter to be relegated to obstetric specialists.

For several years it has been my own conviction that the frequency of pelvic anomalies in this country does not differ materially from that in the old world.

My teaching has been that pelvic contraction of some degree is present in from 10 to 15 per cent. of all parturients. This it should be understood applies to women of all classes. In pure-blooded American women pelvic deformities are much less common than in the foreign-born, but they are by no means so rare as is usually assumed. Hirst has given expression to a similar opinion.

Of interest in connection with this subject are the striking results of routine mensuration of the pelvis in the obstetric department of the Johns Hopkins Hospital. In one thousand women, Williams and Dobbin found 13.1 per cent. of contracted pelves (*Obstetrics,* May, 1899). Nearly half the clinical material, 469, were colored women. In the 531 white women the pelvis was contracted in 7.15 per cent. Three cases of rachitis and one of osteomalacia were noted in white women born in Baltimore. Among the blacks pelvic contraction was found in 19.83 per cent., nearly three times as frequently as in white women.

The comparative neglect of routine pelvimetry on this continent has been commented upon by foreign authorities, notably by Winckel, during his visit to this country. Williams could find no recorded statistics of American observers, with the exception of three recently published. Reynolds of Boston in 1890 reported some observations in 2127 pregnant women, which indicated that contracted pelves exist in about 7 per cent. of native-born white women. (The Frequency of Contracted Pelvis.—*Trans. Am. Gyn. Soc.,* 1890.) Crossen of St. Louis, in 800 women, found the same percentage of pelvic deformities. (Partial report of 800 cases of labor.—*Am. Gyn. & Obstet. Journal,* July, 1898.) Flint, on the other hand, in the report of the Society of the Lying-In Hospital, New York, for 1897, says that in 10,233 women deformed pelves were noted in only 1.42 per cent.

It is evident, even from the limited number of published observations thus far available, that the frequency of pelvic contraction in our native population, especially in large cities, is greater than has commonly been supposed, especially in the great centers of population.

It is somewhat remarkable that definite opinions have been expressed by most of our text-books with reference to the infrequency of deformed pelves in American practice, in the entire absence of adequate statistics. Obviously there is urgent need of more systematic pelvimetry in our hospitals and in general practice.

When we have from all sections of the continent carefully recorded data as voluminous as those of European clinics, more definite conclusions can be reached. It is essential, however, that observers in all countries adopt a common standard of comparison. As yet there is apparently no definite agreement as to what shall constitute contraction. Even on the Continent of Europe, where routine pelvimetry is carried out with so much detail, there is an evident lack of unanimity with reference to the basis of classification.

For example: Leopold in Dresden finds 24.3 per cent. of contracted pelves, while Winckel, in Rostock, had but 5 per cent. of deformities. Tarnier and Pinard of Paris report respectively 16.1 and 5.7 per cent. of malformations. Shauta's estimate in Vienna is 20 per cent., and the Prag statistics show 16 per cent. of deformed pelves. In Great Britain and in Russia the proportion of malformations is believed to be very much smaller. While the frequency of pelvic deformities without doubt varies to some extent in different localities, the existing discrepancies in reported statistics must be ascribed in part to lack of unity in the methods of observing and classifying the clinical material.

While much may be done to ensure greater uniformity in this matter entire agreement is scarcely possible. The boundary between the normal and the abnormal pelvis is drawn with great difficulty (Winckel). Racial peculiarities in the size of the fetal head complicate the question.

The true conjugate, which is the most important index of the pelvic capacity, is seldom measured directly. Its length is estimated from that of the diagonal conjugate. The difference between the two conjugates varies according to the depth, thickness and inclination of the symphysis and the height of the promontory. The correction is in part a matter of judgment. And here the personal equation comes into play.

The only practical solution of the question is the adoption of an arbitrary standard. Several observers have accepted the definition of Michaelis and Litzmann. By them a pelvis is considered contracted when there is shortening enough in one or more of its diameters to disturb the normal mechanism of labor, even though it be not sufficient to obstruct the birth directly. Nine and a half cm. (3¾ inches) for the conjugata vera in flat, and 10 cm. (about 4 inches) in generally contracted pelves are the limits.

The corresponding values for the diagonal conjugate fall somewhere between 11 and 12 cm., according to the character of the deformity. Practically the observer will not go far astray who counts all pelves as contracted in which the diagonal conjugate measures 4½ inches (11.5 cm.) or less.

Of the statistics of the obstetric department of the Long Island College Hospital I present only a preliminary report. In the limited time thus far at my disposal I have collated the facts in 431 cases. In the 431 women there were 56 contracted pelves, 12.9 per cent. These figures cannot, of course, be taken to represent the general prevalence of pelvic contraction. The proportion of abnormal cases is naturally greater in hospital than in private practice. In our service it has always been large, many of the patients having been referred to the hospital owing to present or prospective difficulty of delivery.

Twenty of the 56 women were born in this country; some of this number were of foreign extraction, how many the records do not show. Italians, Germans and Irish make up the greater part of the remainder.

It will be seen that the pelvic deformities were by no means confined to the foreign element in the service, twenty cases of contraction occurring in American-born women.

Four of the 56 women were delivered by Cæsarian section. Of these, 2 were Italians, 1 German, and 1 English, of Irish descent. In 4 of the 56 symphysiotomy was performed. In that number Italy, Germany, Austria and Ireland were represented by one each. Of the patients delivered by craniotomy one only was born in this country. It appears from these facts that the higher degrees of obstruction, as is generally understood, are much less frequent in our native than in the foreign-born population.

Operative delivery of some kind was required in 22 of the 56 cases, or in 39.2 per cent. This corresponds nearly with that reported by other observers. In the Johns Hopkins service contraction of sufficient degree to necessitate operation was found in 35.11 per cent. Flint's operative percentage was 46, and Crossen's 42.8 per cent.

Diagnosis of Pelvic Contraction.—Complete and exact mensuration of the pelvis is a matter of somewhat difficult technical detail and is possible only after considerable training. Yet we have found that our resident obstetricians, as a rule, with such practical knowledge of pelvimetry as they have acquired in the manikin work and the bedside teaching, attain a good degree of precision after a few weeks' experience in the hospital service. This is more especially true of the external measurements.

Fortunately for the requirements of general practice pelvimetry is capable of simplification. Elaborate details, while indispensable to a proper knowledge of the character of the deformity and to the scientific value of records, is seldom required to determine whether the pelvis is or is not contracted, and this is the question which most concerns the general practitioner.

A few simple measurements suffice and such only as should present little difficulty even to the beginner. Very much may be learned by even a single external measurement.

External Pelvimetry.—External mensuration of the pelvis has the great advantage that it can be carried out with the least possible discomfort to the patient. Any simple pelvimeter, even a carpenter's calipers and tape measure, serve the purpose. The only external diameter essential to our present object is the external conjugate. This is best measured not from the spine of the last lumbar vertebra, as is sometimes directed, but from the depression immediately below it, to a point on the pubic surface a little below the upper margin of the symphysis. If the poles of the instrument are correctly located and are applied with firm pressure it will be found that repeated trials will yield substantially the same result. In a large proportion of cases this, the diameter of Baudelocque, alone will decide whether the pelvic space is normal.

With an external conjugate at or below 6 inches, or even below 6¼ inches, the pelvis is invariably contracted.

With an external conjugate at or above 8 inches the pelvis is almost surely ample.

Between 6¼ and 8 inches (16 and 20.5 cm.) the question is left in doubt and must be determined by other measurements.

While, as is well known, the length of the external conjugate cannot be relied on for computing that of the corresponding internal diameter the foregoing rules are of great value for estimating the probabilities. Leopold relies largely on external pelvimetry.

Internal Pelvimetry.—The crucial test of the pelvic capacity lies, of course, in the measurement of the internal diameters. Of these the most important is the diagonal conjugate. In general practice this is best measured by the manual method. In nearly all cases this measurement alone suffices for the diagnosis of obstetric narrowing of the pelvis. If it is 4½ inches or less the pelvis is contracted and conversely. Notable exceptions are the kyphotic pelvis and obstruction by tumors, but these are readily recognized. Allowance must be made for variations in the depth, thickness and inclination of the symphysis, but those elements in the question play a less important rôle in the diagnosis of deformity than in determining the degree of deformity.

We occasionally meet with pelves in which the contraction is confined to the outlet. This was the case in three of our symphysiotomies, including the first and the last. If to the measurement of the diagonal conjugate is added that of the sacro-pubic diameter, existing deformities of whatever kind can scarcely be overlooked.

In what has been said it is not the intention to depreciate the value and importance of painstaking attention to details in pelvimetry, but rather to emphasize the fact that he recognition of obstetric narrowing of the pelvis may usually be assured by a single, or, at most, by two measurements.

The importance of routine pelvimetry, at least to the extent detailed, is surely not beneath the consideration of any physician who practices obstetrics. If pelvimetry were made a part of every obstetric examination in all women about to be delivered for the first time, and in others presenting a history of difficult labors, some of the tragedies of the lying-in room would be prevented. Kleinwächter has well said that no error in diagnosis is so terribly avenged upon mother and child as one relating to malformation of the pelvis.

In many instances marked pelvic contraction may exist with nothing to betray it in the external appearance of the woman. Even minor deformities are often the unsuspected cause of grave irregularities in the mechanism of labor. It is well known that malpresentation and malposition, prolapse of cord and small parts, occur with greater frequency in abnormal pelves. Some knowledge of the shape and capacity of the individual pelvis, even in the absence of marked obstruction, is indispensable to the intelligent management of labor.

To illustrate: A. M., in labor 48 hours; child very large and head impacted in occipito-posterior position; craniotomy. Second child lost in birth, owing to excessive size (11 pounds), and face presentation. The third child was saved by premature delivery. Toward the close of the fourth pregnancy the mother was placed on the Prochownik diet. She gave birth easily to a 7½ pound child.

In this case there was not only disproportion in the first two labors, but irregularity in the shape of the pelvis. Systematic mensuration in the first pregnancy would doubtless have revealed this.

Even though the pelvis is found entirely normal in the antepartal examination, both physician and patient are amply repaid for their pains by the increased assurance that all will probably go well.

The best time for taking the pelvic measurements is obviously a comparatively early period in the pregnancy, certainly not later than the end of the eighth month.

At labor, among the more useful indications of pelvic contraction, are the following:

1. Failure of the head to engage during active labor.
2. Failure to engage the head by well-directed supra-pubic pressure. This is a diagnostic method which often may be employed to advantage in the few weeks immediately preceding labor.
3. Failure of tentative traction with forceps. In partial engagement of the head the latter should always be tried with the aid of the Walcher posture before resort to cutting operations.

METHODS OF DELIVERY IN PELVIC CONTRACTION.

Spontaneous Delivery.—In 34 of the 56 cases of contracted pelvis in our service, or 60.7 per cent., delivery was spontaneous, about the same proportion as observed in other clinics. These figures serve to emphasize the importance of withholding intervention so long as there is a reasonable prospect that the labor may be terminated safely by the natural forces. With efficient pains apparently impassable obstruction sometimes may be overcome by extreme moulding of the head.

Forceps was employed in 7 cases and version in 3. As these figures indicate, forceps is often preferred to version, even before engagement, when the occiput can be pressed well into the brim. In version, extraction of the head must be possible within a few minutes after it reaches the brim, while with the cautious use of forceps time may be allowed for molding of the head.

Craniotomy.—In 3 cases in which the fetus was dead, craniotomy was performed.

Perforation has not been practiced on the living child; yet I am disposed to believe that in rare instances the sacrificial operation is better than its alternatives. In extreme exhaustion of the mother the interests of the child should not be permitted to have too much weight. This is particularly true in private practice.

It should be remembered that the prognosis for craniotomy is not to be estimated by the experience of preantiseptic times.

By well directed expressio fetus, aided by the Walcher posture, at the inlet, and later by the extreme lithotomy posture of Schmidt, more formidable measures may sometimes be avoided.

The Induction of Premature Labor has not been performed at all on the pelvic indication. This has been mainly due to the fact that our clinical material has seldom come under observation till the period for premature labor has passed. The utility of this operation, however, is limited if the interests of the child are to be considered. To offer a reasonably fair chance of success the time must be about the thirty-fifth week and the conjugata vera not below 3¼, or, at the lowest, 3 inches. At best the fetal mortality is high from prematurity and from malnutrition after birth, being variously reported at from 20 to 38 per cent. Yet Tarnier commenting on his own results in 116 cases of induced labor, in which none of the mothers and 26 of the children were lost, pertinently observes that it is better to save 100 mothers in 100 labors, with a loss of 20 infants, than to lose 8 per cent. of the women and 10 per cent. of the children by Cæsarian section. As he remarks, the operation is well suited to certain cases in home practice.

Should delivery by forceps or version be required advantage should be taken of the Walcher position while the head is passing the brim.

Symphysiotomy.—Experience has restricted the scope of this operation within somewhat narrower limits since the time of its general revival in 1892. Symphysiotomy has not, to the extent then expected, replaced Cæsarian section in relative contraction.

The gain in the conjugate cannot exceed a half inch consistently with the safety of the sacro-iliac joints. Two and three-fourths inches (7 cm.) for the conjugate in simple flattened, and three inches (7.5 cm.) in pelves generally contracted, is generally accepted as the lower limit.

As I have said in a former paper the election of pubic section in contraction near the minimum limit presupposes the ability to estimate accurately the relative size of head and pelvis; and this may tax the skill of the obstetrician more than the most difficult incisive delivery.

This operation compares unfavorably with Cæsarian section in that it does not effect delivery, but merely prepares the way for it.

Again symphysiotomy, like Cæsarian section on the relative indication, is distinctly a child-saving operation and is contraindicated when the child is dead or non-viable, and craniotomy should be substituted.

Finally, the after-care is complicated and difficult.

The danger of injury to the retropubic soft parts and of imperfect union of the joint is entitled to little weight. These accidents, I am persuaded, are all preventable.

I cannot agree with those who, like Barnes, think the operation has not justified its existence. It has the advantage that it offers a fair chance of success in the presence of considerable exhaustion, a condition in which Cæsarian section is attended with a very high mortality. In one of our symphysiotomy cases the pulse of the mother, when brought into the hospital, was 150, yet she made a complete recovery and the child was saved. Abdominal section would doubtless have sacrificed the mother, and the child's chances would have been impaired under artificial feeding.

Pubic section is applicable in minor degrees of narrowing too slight to justify the election of the Cæsarian operation primarily, yet in which nature and forceps have failed.

Symphysiotomy, therefore, I believe still holds an important place in obstetric surgery. It is especially applicable in cases in which only a very little additional space is required for delivery. Its technic is simpler than that of Cæsarian section and within its limited field it offers to the patient a means of saving the child which is less formidable than abdominal section.

The prevalent opinion that the pelvis remains permanently larger after symphysiotomy appears to have no foundation in fact. It is not sustained by reason or observation.

The maternal mortality of symphysiotomy is generally estimated at about 10 per cent. and the fetal at 15 per cent. Pinard in 90 operations lost 11 per cent. of the women and 13 per cent. of the children. Recorded experience, however, contrary to the statement of Barnes, justifies the belief that in carefully selected cases the results, at least for the mothers, are but little, if at all, inferior to those of Cæsarian section.

For example: Zweifel in 31 operations lost none of the mothers and but 4 of the children. Bar, in 22 cases, saved all the mothers and all the children. Küstner in 7 symphysiotomies had no maternal or fetal deaths.

In my own list of 8 cases, 7 of the mothers made good recoveries. One died of edema of the lungs a few hours after operation, a result scarcely chargeable to the method of delivery. All the children but one were delivered alive, though not all these survived the first month. Firm union of the joint occurred in all the women who recovered. In one case inexperienced assistants permitted the bones to separate too widely as the head came down and the anterior soft parts were torn through, but no permanent injury remained in any.

In none of my symphysiotomies has the diagonal conjugate fallen below 3⅝ inches. Presumably the true conjugate equaled or exceeded 3 inches in all. While delivery by pubic section is possible with a conjugate of 2¾ inches, some risk of failure must be taken in approaching this limit too closely. Unexpected difficulty may be encountered in extracting the fetus. This occurred in several of the earlier operations in Manhattan. The disfavor into which the operation has fallen in certain quarters is no doubt in great measure due to such instances of its misapplication. The future results of symphysiotomy for both mother and child, I am persuaded, will be improved by restricting its anatomical limitations somewhat more than present usage prescribes.

Extraction by version after division of the pubic joint as formerly practiced is to be condemned except in the presence of specific indications. The risk of injury to the anterior soft parts is much greater than with forceps.

Morisani still operates by the subcutaneous method. Ayers has excellent results by an ingenious modification of the subcutaneous operation. My own preference is decidedly for the open French method. Symphysiotomy has been reproached with being unsurgical; but no surgical procedure could be more definite and satisfactory than that of pubic section, as practiced by Pinard.

Cæsarian Section.—Of 11 Cæsarian sections in my practice, 6 were performed in the obstetric department of the Long Island College Hospital.

Of the total number 7 were done on the pelvic indication. One of the mothers died within 24 hours after operation. She was in labor when admitted and had some cough. Autopsy by Dr. Van Cott revealed bronchopneumonia. All the children but one were delivered alive. In 4 of the 11 cases the section was supplemented by hysterectomy.

The best results in Cæsarian section have been those of elective operations. The advantage of operating before the exhaustion of labor and at a prearranged time are apparent. Yet operation in advance of labor is not universally accepted. Against it is urged the risk of hemorrhage from failure of uterine contraction, and three recorded cases of persistent atony are cited. There is no proof that the complication in these cases was due to antepartal operation. Atony is sometimes encountered after spontaneous deliveries. In any event the emergency is disposed of by hysterectomy. In my own experience with the elective operation, which is limited to 5 cases, retraction occurred promptly. The women all recovered and all the children were saved.

A much-discussed question is what to do with the uterus. The chief cause of mortality in the conservative operation is infection springing from the uterine cavity. In certain conditions the necessity for hysterectomy admits of no question. All are agreed that the uterus must be removed in the event of probable infection. In myoma and in malignant disease hysterectomy is demanded. Experience has shown that in gonorrhea, acute or chronic, it is dangerous to leave the uterus. Infection of the uterine incision with failure of union and leakage into the peritoneum is likely to follow. Persistent atony of the uterus as already stated is an indication for its removal.

Experience with modern hysterectomy after Cæsarian section is yet too limited to determine the relative prognosis of the two procedures in conditions favorable to the conservative section. Theoretically the results of the radical operation should be better. To remove the uterus takes no more time and entails no more shock than properly to suture it and it eliminates the principal source of infection.

Owing to the increased length of the vagina and the loose attachment of the peritoneum the uterus can be lifted well out of the pelvic cavity. The vessels are large and easily accessible and the operation is much easier than are ordinary hysterectomies.

The ethical question must, of course, be considered. Except when demanded in the interest of her life, the surgeon cannot assume the right to sterilize the woman without her consent.

The following three operations, performed during the past year, have not before been fully reported:

A. T., Italian. Age, 18 years. Admitted to Long Island College Hospital in September, 1898. Primipara in ninth month of gestation. Height, 3 feet 11½ inches. Pelvis, of flat rachitic type, presented the following measurements: Intercristal diameter, 24 cm.; interspinal, 25.5; external conjugate, 14.5 cm.

conjugate, 8.2 cm.; true conjugate estimated at 6.45 cm. Cæsarian section, October 3, 1898, a few days before the expected date of labor. Placenta implanted anteriorly. Uterine incision directly through it. Supravaginal amputation of uterus. Both ovaries left. Recovery without incident.

Child, a male, weighed 3289 grams. Is living and well.

M. R., Italian, age 20 years; 1-para; admitted to the Long Island College Hospital May 18, 1899. First delivery by Cæsarian section in my service three years ago. Of small stature, height 4 feet, but presenting no other external evidence of deformity. General health fair. Pains began 4 days before admission; cervix fully dilated. Pains weak, pulse 85, temperature 99. Child presenting by the vertex, R. O. A., head not engaged. Pelvis flattened and generally contracted. No external deformity.

The pelvic measurements were as follows: Intercristal diameter, 26 cm.; interspinal, 26 cm.; external conjugate, 15.7 cm.; diagonal conjugate, 8.8 cm.; true conjugate, 7 cm. Cæsarian section performed May 18, 1900. Abdominal incision 17.5 cm. in length. Lower half of uterus densely adherent posteriorly on the left side and in front. Hysterectomy. Right ovary not removed. Recovery uneventful..

Child a male, living, weighed 3175 grams.

Mrs. R., German. Age, 35 years. Three-para; of spare habit; weight, 124 pounds. Admitted to my private hospital in June, 1899. History of three miscarriages between the second and third childbirths. Had been in poor health since birth of last child, six years ago. Strength had been failing for two or three months. Right lower extremity greatly swollen; left somewhat so. A fibroid in the right lower portion of the uterus nearly filled the pelvis. (See Illustration.)

Cæsarian section, followed by hysterectomy, at the thirty-seventh week of pregnancy. Smooth recovery.

Child, a male, weighed 2268 grams (5 pounds) some days after birth. Was artificially fed for several weeks, since which time it has been wet-nursed; is well and thriving and the mother is in perfect health.

Uterus and tumor weighed 7 pounds.

THE MEDICAL FACULTY AS FACTORS IN HISTORY—AN ADDRESS GIVEN APRIL 17TH, 1900.

BY HOMER L. BARTLETT, M.D.

Mr. President and Members of the Medical Society of the County of Kings:

I propose to consider briefly medical men as factors in human history.

The medical faculty has had an organized existence among the older civilizations of the world for nearly 3000 years. Among its members have been the learned of every age. They have been the companions, and advisors of kings, emperors, and potentates, and yet they have had little influence in shaping national policies, or in guiding the destinies of the human race.

The reasons for this are not difficult to discover. The study and practice of medicine does not, like the study and practice of law, lead its votaries into the halls of legislation, nor does it concern itself with the affairs of statecraft, but rather leads its disciples into the paths of science, literature and discovery.

The secrets of Nature are more attractive to the majority of physicians than are the devious ways of politicians, or the glory of arms, or of statesmanship. In fact, so indifferent has the fraternity been in regard to its records or renown, that to-day no adequate history of medicine exists.

The eccentricities of genius, the rude manners of some members of the faculty, and the preposterous claims of charlatans and mountebanks have been handed down to posterity, but the gradual growth and development of the healing art, since the days of Hippocrates has never been wholly written, and probably never will be at this late date, from the want of authentic records.

Even the biographies of its illustrious names have been sadly neglected, and I venture to say that more has been written about Paracelsus and Mesmer than has ever been recorded concerning Harvey or Jenner.

History does not so much consider the extent and wealth of a country as it does the worthy deeds of the eminent men and women who have given character and glory to it. Hence the most attractive form of history is biography, and here our society has shown its wisdom in preserving among its archives the personal records of its members.

If medical men have not gained glory on the battle-field nor in legislative halls, nor in courts of diplomacy, still in discovery, literature and science, they have ever been preëminent. And who would not rather—much rather—have been a Harvey or a Jenner than a Cæsar or a Napoleon?

If now we take our stand on the high divide, which separates the past from the future, and cast our eyes backward through the circling centuries, which have passed into the great unknown, since the history of medicine began, we arrive at a period which antedates authentic records, and see only mysterious forms dimly outlined against the shadowy past, whose forms and voices are of such uncertain aspect as to make us hesitate to believe them real. To this period belong the myths and traditions of Æsculapius. Who or what he was we hardly know, but we must believe that he and his disciples had great influence on the minds and destinies of the ancient world, for they honored him as a god, erecting temples to his worship, and cities vied with each other in claiming the honor of his birthplace.

Fable has it that Epion was his wife and Hygeia and Panacea his daughters, and so skilful did he become in rescuing his patients from Hades, that Pluto—the presiding genius of these delectable regions—fearing his realms would become depopulated, complained to great Jove, who, angry that a semi-mortal should dare resist the gods, destroyed Æsculapius with a thunderbolt. Since that time, his descendants have never dared use their utmost skill, for fear of a similar fate.

In the Homeric Songs, the sons of Æsculapius are said to have taken part in the Siege of Troy, but no authentic records are extant of their deeds.

If we now continue our gaze, there comes upon the historic page of medicine a real and tangible form—a colossus—the very Father of Scientific Medicine, viz.: HIPPOCRATES. Born on the Isle of Cos, 460 B.C., of a family who claimed to have descended from the Æsclepiadæ, and in which the practice of medicine was hereditary, Hippocrates was most fortunate to have been born, and to have lived in the Classic Age of Greece, and to have had such men as Socrates, Pericles, Plato and Aristotle for his contemporaries.

With a mind enlightened by the study of all that had preceded him, and enlarged by travel in foreign countries, he rescued Medicine from Empiricism and gave to it a tangible form.

He studied the symptoms and history of disease with the greatest care and laid down proper rules for diet and treatment. In fine, he did for Medicine what Phidias did for Art, what Socrates and Plato did for philosophy, and Pericles for oratory and statesmanship.

So far as we know, Hippocrates never dissected a human body and knew little of anatomy save what he had learned from dissecting animals, and by the examination of the human skeleton which had been procured by maceration. Still the history, duration and symptoms of disease were most carefully observed and recorded, and gradually medicine was disassociated from the priesthood, and surgery and pharmacy became specially studied. From this time medicine became a distinct branch of human knowledge and the practice of medicine a distinct profession.

Until the time of Galen—some 500 years later—the writings of Hippocrates were considered authoritative on all medical subjects.

Galen, like Hippocrates, was born under propitious circumstances. The son of a physician, born under the shadow of the Library of Pergamus, a library unexcelled in size and importance among the ancients, save only by that of Alexandria—with its temple of Æsculapius and School of Medicine.

In his earlier manhood, he traveled extensively, visited Rome, Greece and Egypt, and finally made Alexandria his place of residence for a period.

If now we take a momentary glance at his adopted home, and briefly scan the horizon of contemporaneous history, it will repay us, and perhaps give us a juster view of medicine during the age of this "Sage of Pergamus!"

Alexander, so called the Great, had crossed the Hellespont with his conquering legions; had subdued all Asia Minor, a large part of Arabia, and India, and Egypt. In fine, all the countries lying on or contiguous to the shores of the Mediterranean, and had built a beautiful city at the mouth of the Nile, to commemorate his name and glory.

While sighing for more worlds to conquer, he was himself conquered by death and his vast dominions were divided amongst his victorious generals.

Egypt fell to the lot of Ptolemy Soter, and later to his son, Ptolemy Philadelphus. These rulers conceived the wise idea of adorning their capital with a library and museum. A library which should contain the lore of all preceding ages, and a museum which should illustrate all the rare plants, and curious animals of the known world.

These projects they proceeded to execute, at great cost and trouble, and induced the learned of every country, by large emoluments, to flock to this new shrine of learning.

Here came Arab physicians, Greek philosophers and literati. Learned Jews translated the Scriptures into Greek, and so produced the Septuagint. Medicine was particularly cultivated, for under these enlightened rulers, dissecting of the human body was permitted for the first time, and anatomy, physiology, surgery and pharmacy made great advances.

Under the Æsclepiadæ, the nerves, ligament and tendons were all confounded together, and the muscles were thought to be inert masses whose only object was to cover the bones and give form to the body.

They did not understand the structure or functions of the brain, heart, lungs or stomach, but what they lacked in positive knowledge, they made up in subtle theories and speculations.

But this was changed in the Alexandrian school. Anatomical studies were pursued, and the chronicle speaks of two men who were famous in this line: Herophilus and Erisistratus.

Galen and his contemporaries dissected the human body and recorded their observations for posterity. They found that the bones were joined together in the skeleton in two ways, viz.: by symphysis, and articulation—that the muscles are organs of locomotion. Galen refuted the former belief that the arteries carry only air, "for," said he, "whenever an artery is cut or wounded blood gushes out."

He taught that the veins have their origin in the liver, but that the nerves were derived from the brain and spinal cord. He also discovered the seven pairs of special nerves of sense, but he did not understand the circulation of the blood, or that each nerve had a double origin and contains both sensory and motor filaments.

Fortunately for the posthumous fame of Galen and the good of his successors, many of his writings were rescued from the ruin, which befell the Alexandrian Library, and they still remain to us a rich legacy of the past.

Probably no medical man ever lived whose example and teachings produced so profound or lasting an impression upon the thoughts and beliefs of his own and succeeding ages, as did Galen.

He lived in the Second Century of our era, when the doctrines of the Christian religion had made themselves known, and felt, but the early Christians held the human body so sacred that the use of the scapel was felt to be desecration, and anatomy made slow progress.

But the zeal for dissection, meeting so much opposition, gradually cooled, and between the Alexandrian anatomists, and the time of Galen, we find mention of but five or six men devoting themselves to anatomy.

Galen encouraged the medical men of his time, by example and exhortation, to devote themselves to anatomy as the surest guide to practical medicine. But, either from apathy or superstition, the study was wholly neglected after his death.

From the death of Galen, and the destruction of the Alexandrian Library, medicine made no progress till the fifteenth century.

Nicholas Leonicenus (1428) studied medicine at Padua and lectured for sixty years at Ferrara. He cultivated the ancient

Greek writings and made many corrections in the Arabic translations.

A little later, Thomas Linacre of England was instrumental in correcting many abuses, and originating many improvements. Before his time the bishops licensed practitioners in medicine, and monks and illiterate men were the doctors. Through the influence of Linacre, a chair of medicine was introduced at both Oxford and Cambridge, and the College of London was founded. Through his efforts, also, a law was passed forbidding any one to practise medicine unless he had the degree of M.D. from one of these universities or was licensed by the faculty of the College of London.

This brings us to the period of revival in all branches of knowledge, of the discovery of new worlds, of the telescope, microscope, mariner's compass, and above all, of the art of printing.

The darkness of the medieval night was passing away and men's hearts were throbbing with joyous expectancy.

Men were discounting the teachings of the ancients and daring to think and investigate for themselves.

Such men as Mundinus, Sylvius, Vesalius, Eustachius, Fallopius, Harvey, and Des Cartes, dared to go to the fountain sources of all anatomical knowledge and if they found Hippocrates or Galen in error, had the courage to say so.

From this time anatomy was studied and demonstrated by actual dissections of the human body. Pathological anatomy had its origin in the desire to know what the traces of disease were on the various organs of the body, and surgery was much more scientific and intelligent from a true knowledge of the parts operated upon.

Ambrose Paré substituted the ligature for the actual cautery.

Haller made his wonderful discovery in physiological and reflex nerve force, and Avenbrugger substituted percussion for succussion, which had been used by the Æsclepiadæ. The Lazaretto in Marseilles was first brought into use as a means of quarantining against plague, in 1649, and the discovery of vaccination by Jenner was a most important advance in preventative medicine.

In fine, medical science revived all along the line, as did the other sciences, and such names as Sydenham, Bell, William and John Hunter, Simpson, Lister, Pasteur, Morton and Sims appear on the pages of medical history in undying letters and have left behind them an influence that has changed the course of human affairs and prolonged human life.

We see this particularly in preventive medicine, in medical jurisprudence, the improved methods of physical exploration and the means for lessening pain.

If we turn our attention to those medical men who have made incursions into the field of literature, we shall find them numerous and brilliant.

Rabelais was born toward the close of the fifteenth century; a contemporary of Luther; was first educated as a priest, but thirsting for learning, he traveled and studied at nearly all the great universities of Europe. Graduating at the University of Monpelier, in France, receiving all the degrees, he rapidly acquired a great medical education.

He was appointed physician to the Hospital at Lyons, 1532. He was the life long friend and physician to Cardinal Du Bellay, once Archbishop of Paris, who was his constant and faithful protector all his life.

His great work, in five volumes, is a satirical and scathing stricture on the evils and eccentricities of his times, under the form of a historic narration. It is entitled, "The Astounding Life of the Great Gargantua, Father of Pantagruel," etc. It was written at different times during twenty years, and is considered a classic, with passages worthy of Homer or Plato or Plutarch. It contains all the dialects of France, his images are noble, but many of them being indecent, as suits his purpose. It has been said that he represented many great personages of his times, under the assumed names of his various characters.

Sir Hans Sloane, an Irishman, born in 1660, in Killeagh, County Down, studied medicine at Paris and at Montpelier, in France, and was admitted Fellow of the London College of Physicians, in 1687. He went to the West Indies with the Duke of Albemarle, Governor of Jamaica, where he remained fifteen months, making the observations and collections of natural history specimens which have made his name so famous. He also wrote a description of the flora of the islands. On the death of Sir Isaac Newton he was chosen President of the Royal Society.

He was the most popular physician of his time, having for patients all the notable people within distance. Queen Ann consulted him, and one of his notes shows that his coach ride to Windsor occupied four hours. He was an advocate of inoculation and practised it on several members of the royal family. He was a great benefactor of the poor and entertained generously once a year all his friends of the College of Physicians, and the Royal Society. In his will he offered to Parliament, on consideration of £20,000, to be paid to his family, his extensive collection of books and specimens which had cost him £50,000, and this laid the foundation of the world-renowned British Museum.

Sir Samuel Garth, born in 1661, was both eminent physician and poet of note. He graduated at Cambridge University and studied at Leyden. In 1694 he delivered the Gulstonian lectures on respiration, but refused to have them published.

In 1697 he delivered the Harveian oration at the College of Physicians, in which a scheme for establishing a dispensary, where poor patients should obtain advice and prescriptions gratis from the best physicians was advocated. His poem, "The Dispensary," was very popular. It describes a mock Homeric battle between the physicians and the apothecaries, Harvey being finally summoned from the Elysian Fields to prescribe a reform.

Garth translated the life of Otho from Plutarch and the first Philippic in the orations of Demosthenes. He was a member of the Kit Cat Club, and was knighted on the accession of George I., becoming Physician in Ordinary to the King and Physician General to the Army. He lived in Covent Garden, became wealthy by his practice, and died in 1719.

Dr. Eliot Jared, a clerical physician, born in 1685, in Guildford, was a grandson of the great Indian apostle, and the first medical man of eminence in Connecticut. He was an excellent botanist, a scientific and practical agriculturist, and introduced the white mulberry and silkworm into his native State. He was a mineralogist of note, receiving in 1761 a gold medal from London as a premium for his discovery of a process of extracting iron from black sand. He was a personal friend of Bishop Berkeley and of Dr. Benjamin Franklin, and was intimately connected with scientific men, both in Europe and America.

He was a good linguist, leaving an extensive library, especially in ancient languages, and was a constant reader of Hippocrates, Celsus, Galen and Aretæus in the original. As a physician, he is best known for his skill in the management of chronic complaints.

Tobias George Smollett, born in 1721, in Dumbartonshire, Scotland, of a good family. After an unsuccessful attempt to practise in London and Bath, he tried his pen and was fairly successful. He wrote "Roderic Random," "Peregrine Pickle," "Ferdinand, Count Fathom;" a translation of "Don Quixote," a "History of England," and "Humphrey Clinker." He died in Leghorn, and is celebrated there on the banks of the Leven by monuments with proud Latin epitaphs. Dr. John Moore says, somewhat mildly, that, "in the ardour of his satirical and humorous chase, Dr. Smollett, sometimes leaves delicacy too far behind."

Dr. Benjamin Church graduated at Harvard, 1754, and establishing himself at Boston, rose to some considerable eminence as surgeon and physician. He had great influence among leading Whigs and patriots during the American Revolution, and was appointed Physician General to the Army.

His works consist of both prose and poetry. The former are mostly essays of a witty and philosophical kind, put in an ephemeral publication of the day, and well known at the time. The oration which he delivered before the town on the 5th of March, 1773, discovers a rich fancy, and is one of the best of the Boston orations. Of his poetical pieces there remain "The Elegy Upon Dr. Mayhew," "The Elegy Upon Mr. Whitefield," both serious and pathetic; "The Elegy upon the Times," rather satirical but patriotic, and "Pietas et Gratulatio," considered the best of all.

John Mitchell, M.D., F.R.S., came from England in 1700 and settled in Virginia. He was an eminent physician and greatly interested in botany, wrote a work on the principles of the science, containing a description of several new genera of plants in 1769. In 1794 he wrote an interesting and original essay on the "Causes of the Different Colors of People of Different Climates," in which he attributes the differences of complexion to the influence of climate and modes of life, and thinks that whites have degenerated more from the original complexion of Noah and his family than Indians or negroes; also that the color of the descendants of Ham is rather a blessing than a curse, as without it they could not inhabit Africa. He was a friend of Benjamin Franklin.

Dr. John Arbuthnot, born in 1667, in Kincardineshire, Scotland, was the son of a clergyman. He graduated at St. Andrews and was called to attend George of Denmark, Prince Consort, and was afterwards made Physician Extraordinary to Queen Ann. Many of his works were published with those of Swift, Gay, Pope, etc., and cannot be identified. But his history of John Bull has fixed itself forever in the popular fancy and memory. He is credited with having been the first to use this famous sobriquet for the English nation, the first to make that burly, choleric, blunt-spoken, but honest, and straightforward character one of the stock types of the world. The book consists of four pamphlets entitled successively: "Law Is a Bottomless Pit, Exemplified in the Case of Lord Strut, John Bull, Nicholas Frog, and Lewis Baboon, Who Spent All They Had in a Law Suit;" secondly, "John Bull in His Senses;" thirdly, "John Bull, Still in His Senses;" and fourthly, "Lewis Baboon Turned Honest and John Bull, Politician." The characters disguised are John Bull, Englishman; Nicolas Frog, Dutchman; Lewis Baboon, the French King; Lord Strut, the late King of Spain; Lewis Baboon, Duke of Anjou; Esquire South, the King of Spain; Humphrey Hocus, the Duke of Marlborough; and Sir Roger Bold, the Earl of Oxford. The lawsuit was the War of the Spanish Succession; John Bull's first wife was the late Ministry; John Bull's mother, the Church of England; his sister Peg, the Scotch nation, and her lover Jack, Presbyterianism. It was attributed to Swift, but he disclaimed it, saying, "It was writ by a friend of mine, a Scotchman." St. Patrick's Dean says further, "Oh, if the world had but a dozen Arbuthnots in it, I would burn my travels."

Before the reign of Queen Ann, England had few physicians who were at the same time literary men. Besides those already mentioned, we find Crabbe, who was apprenticed to a surgeon, Shelley, who had studied medicine, and Keats, who was bound to an apothecary, all of them well-known poets.

Oliver Goldsmith, an Irishman, born in Pallas, County Longford, in 1728. His father was a clergyman. He was always unsatisfactory, humorous, reckless, and idle. He studied medicine in Edinburgh and later in Leyden, and settled in London, teaching, serving as an apothecary, practising medicine, reading proof, writing as a hack, planning to practise surgery in Coromandel, failing to qualify as hospital mate, and only not starving, always forgiven by his friends he offended, and at all times an uncurbed genius. He was an essayist, critic, story writer, a poet, a comic dramatist and a literary drudge. He wrote "Memoires of Voltaire," "Life of Nash," two histories of England, "History of Rome and Greece," "History of Animated Nature," "The Vicar of Wakefield," "The Deserted Village," "The Traveler," and "She Stoops to Conquer." Garrick said of him:

"Here lies Poet Goldsmith, for shortness called Noll,
Who wrote like an angel, but talked like poor Poll."

Dr. James Freeman Dana, born in Amherst, 1793, was a writer in chemistry, mineralogy, geology, entomology and botany; also, a contributor to several medical and scientific journals. His works are: "An Account of the Grand Monadnock Mountains of New Hampshire," "A New Form of Electrical Battery," "The Effect of Vapor and Flame," "On the Ignition of Platinum," "Analysis of Copper Ore in Franconia," etc.

John Moore, M.D., born in 1729, in Stirling, Scotland. He matriculated at the University of Glasgow, was apprenticed to John Gordon, a surgeon in large practice, and the instructor of Smollett. He attended the lectures of Dr. W. Hunter, and then went to Paris to continue his studies. Eminent as a doctor, his love for literature was a ruling passion. He wrote "A View of Society and Manners in France, Switzerland and Germany," another volume of the same kind on Italy. He had traveled extensively and these were the result of his observations. His novels are "Zeluco," "Mordaunt," "Edward," "Memoirs of a French Lady of Quality," which contain various views of human nature. Moore was sagacious as a physician and a keen observer of human nature. Sir John Moore of Peninsular fame was his third and eldest surviving son.

Charles Robert Darwin, born in Shrewsbury in 1809, was sent at 16 to study medicine in Edinburgh, but his bent for the other sciences, botany, geology, etc., was so strong that even as a boy at school he incurred the censure of the head master for wasting his time on such unprofitable subjects as natural history and chemistry. Through the sound advice of his uncle, Josiah Wedgewood, he accepted an offer to accompany Captain Fitzroy as naturalist on board the "Beagle," and as he says himself, it was this voyage that determined his whole career, and was the parent of one of the most powerful ideas that has stirred the civilized world. His "Origin of Species," "Variation of Plants and Animals under Domestication," etc., etc., are too well known to need more than mention.

David Livingston, medical missionary and explorer, whose name is undyingly connected with the country which is absorbing so much of our attention to-day, was born at Blantyre, Scotland, in 1813. He worked in a cotton factory as a "piecer" and studied at night. With his first earnings he bought Ruddiman's "Rudiments of Latin," mastered Virgil and Horace, and read whatever came in his way. At 19 he earned enough as a cotton spinner to support himself whilst attending the medical class in Anderson College, the Greek class in Glasgow University, and the divinity lectures of Dr. Wardlaw in summer. He was in the same class with Lord Playfair, and the brothers James and William Thompson (now Lord Kelwin). Meeting Dr. Robert Moffat, Livingston decided to go to Africa as medical missionary, and in the autumn of 1840 he started for the Cape of Good Hope, arriving in the following July, 1841, at Kuruman. His explorations, missionary, and educational labors among the natives are most interesting, and have largely served to open the country and make civilization possible. The Dutch opposed his labors at every point, prefering to have the natives in darkness and ignorance that they might enslave them, and at one time the Boer bands even fell upon the little station when Livingston was in Capetown, and his wife in England, carried off the natives of the school, burned his house and furniture, and even his desk with his valuable papers. He died in 1874, worn out with his loving labors in the cause of humanity, and his remains were brought back to his native land by some of his converted savages, who could not bear to part with their beloved friend whilst he was above ground. He rests in Westminster Abbey.

Dr. Elisha Kent Kane, America's great medical explorer, was born in Philadelphia in 1820. Never, perhaps, in any one were there united so many nationalities: Ireland, Holland, England, Scotland, and France, and this fact, together with his American training and environments, will largely account for the rare combination of opposite qualities prominent in his character. He commenced his studies at the University of Virginia, but acute rheumatism of the heart laid him low and left him with a cardiac affection which prevented him adopting medicine as a profession, and was a constant menace to his life. He matriculated in the medical department of the University of Pennsylvania, and in 1843 was appointed surgeon to the embassy going to China. His explorations, travels, and adventures in China, India, the Philippines, Egypt and Mexico, previous to his arctic journey in search of Sir John Franklin; are intensely interesting and read like a romance. He was a keen student in chemistry, mineralogy, geology, botany, civil engineering, a Christian gentleman, a philanthropist, a true friend, tender and loving, and at his death, 1857, after a lingering, painful illness in Cuba, the universal expressions of regret and admiration, and the public and official demonstrations in every city through which the remains passed on the way to Philadelphia, were a never-to-be-forgotten testimony to the worth of a brave, enthusiastic and devoted man.

Oliver Wendell Holmes, born in Cambridge, Mass., in 1809. He entered life with a joke, saying of a certain date: "I remember it well, for something happened to me at that time, *viz.:* I was born." Unlike most geniuses, he had no decided bent, and says of himself, "I did not know whether to study law or physic, and the trade of authorship is not adapted to this meridian." He finally gave up law and studied medicine, which enlarged his intellectual sphere. He went to Paris to study and was there associated with the most distinguished scientists of his day, and as years went on, he found his place on the scientific rather than on the practical side of his profession. He was professor and lecturer in the Harvard Medical School for thirty-five years. Holmes had never been a great reader, and was not trained in a home atmosphere of letters, yet when, as he says, "waiting for the smallest favors or fevers," his pen was busy with poem, essay or novel, which have been the delight of the public ever since, with their keen wit, sparkling humor, and brilliant imagination. His "Autocrat of the Breakfast Table," "The Poet of the Breakfast Table," "Elsie Venner," etc., etc., are a legacy which America highly prizes.

Dr. Conan Doyle, born in Edinburgh, in 1859, at whose University he studied, as also at Vienna. He practised as an oculist for a time in Portsmouth, England, but his facile pen was too impatient to write and he devoted himself wholly to literature. He is an earnest, conscientious student, carefully preparing his material before beginning to write. His English is smooth and elegant, and his historical details reliable and correct.

Many other medico-literary names I might mention, but will sum up the list with the name of one bright particular star which is shedding a bright light on the home literary pathway to-day.

Dr. Silas Weir Mitchell, the son of the Rev. Dr. Mitchell of Philadelphia, was born in 1829. He was educated at the University of Pennsylvania and graduated at Jefferson Medical College in 1850. He made himself a name with his notable work on "Snake Poisons;" also as an army surgeon in the Philadelphia Hospital, for injuries to the nerves.

His works of fiction count a dozen or more volumes, and his pen is not yet exhausted. "Hephizbah Guiness," "In War Time," "Roland Blake," "Characteristic," "Hugh Wynne," the Free Quaker," "François Coppett" are a few of his many works.

As a poet, he is pleasing and forceful, his prose is elegant, and his plots well laid. Long may his pen be an honor to our calling!

On reviewing even this short summary of what medical men have done, inside and out of their profession, none of us need count the difficulties of the way, or doubt the final recognition of honest true labor and genuine merit.

Each attains his own level, whether it be Hippocrates, Jenner, or the youngest among ourselves.

Let this be the comfort of each of us, in his hours of difficulty, and his correction in times of self-exaltation, that the true worth and value of the man will stand forth clearly revealed, when the ephemeral wrappings of circumstances and environment shall have fallen from him.

"Take then the thought that wisdom fades,
  That knowledge dies of newer truth,
That only duty simply done
  Walks always with the step of youth.

A grander morning floods the skies
  With higher aims and larger light;
Give welcome to the century new,
  And to the past, a glad GOOD NIGHT."

THE BROOKLYN MEDICAL JOURNAL.

Communications in reference to Advertisements or Subscriptions (Subscription Price $2.00 per annum) should be addressed: Business Manager, BROOKLYN MEDICAL JOURNAL, 260 Hancock Street, Brooklyn, N. Y.

Exchanges, Books for Review and Articles for Publication should be addressed: BROOKLYN MEDICAL JOURNAL, 1313 Bedford Ave., Brooklyn, N. Y.

Remittances should be made by money-order, draft, or registered letter, payable to BROOKLYN MEDICAL JOURNAL, and addressed to Business Manager.

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EDITORIAL.

MEMORIAL MEETING OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

During the present year the losses by death from the membership of the Kings County Medical Society have been unusually frequent, and have included some of its most eminent men. To fittingly commemorate the character and services of these men it is proposed that a special memorial meeting of the Society be held in November, at which eulogies upon each of these deceased colleagues be pronounced. The arrangements for such a meeting are already nearly completed. The idea of such a meeting meets general approval. It will be a most graceful and appropriate thing that this Society should thus assemble to do special honor and pay particular respect to the memory of its departed fellows. Such a service will be helpful in breaking the spell of self-concentration, to the formation of which the peculiarities of medical practise so continually tend, and, in bringing to mind the high character and the great attainments of those whose work has been finished, the labors of those who remain will be stimulated and their ideas exalted.

HAFFKINE PROPHYLACTIC AGAINST PLAGUE.

One of the most interesting publications ever issued by the United States Marine Hospital Service is that by Passed Assistant Surgeon Giddings, of the Hygienic Laboratory, in which the methods of preparation and the relative values of the Yersin anti-plague serum and the Haffkine prophylactic are admirably described.

The following statistics of the prophylactic in the Bombay Presidency in British India would seem to demonstrate beyond peradventure its usefulness.

	Number.	*Cases.*	*Deaths.*
Inoculated	147	2	0
Non-inoculated	172	12	6
Inoculated	147	3	0
Non-inoculated	127	10	6
Inoculated	71	8	3
Non-inoculated	64	27	26

Dr. Giddings says that these figures show that in addition to affording a very large proportion of protection against the disease the mortality was reduced by 80 or 90 per cent. An instance of the average mortality is afforded by the statistics showing that in the city of Hubli the mortality among those not inoculated reached the appalling figure of 657 per 1000 of those attacked. Further, in the cities of Bombay and Moffusil the following figures are given:

	Inoculated.	*Cases.*	*Deaths.*
Bombay	8200	18	2
Moffusil	429	7	0
Non-inoculated		26	24

The duration of the immunity conferred was stated to be several months and this immunity was much increased by a second or even by a third inoculation.

In Lanowlie, India, among 323 inoculated people there were only 14 attacks and 7 deaths. In the same city among 377 not inoculated 78 were attacked, with 58 deaths. Of the Mussulman population of Bombay, 5184 were inoculated. Of these, 7 died. Among 8146 not inoculated 177 died.

While the prophylactic is, as its name indicates, a preventive of the plague, its use in one in whom the disease is in the incubative stage would hasten its development and render the attack probably fatal. It would be adding fuel to fire; the toxin of the prophylactic and that produced by the germs of the disease would be overwhelming in their combined effect. For this reason the prophylactic is to be used only in the cases of those who have not as yet been exposed but who, being residents of a country where the plague exists, may at any moment come in contact with the infection.

The Yersin serum, on the other hand, may be used not only as a preventive but as a remedy.

The component merits and demerits of the prophylactic and the anti-plague serum are summed up by Dr. Giddings in the following quotation from Calmette's address before the International Congress of Hygiene and Demography in Paris:

"The advantages of the anti-plague serum are:

"First—It confers immunity almost absolute and immediate.

"Second—The injection of the serum is not painful and is, therefore, readily accepted, even by children.

"Third—It is never harmful.

"Fourth—The serum, when prepared antiseptically, is a product whose activity remains intact a very long time; in fact, almost indefinitely."

"The disadvantages are:

"First—The very short duration of the immunity.

"Second—The cost of producing the serum and the difficulty of obtaining it in sufficient quantity in order to vaccinate the population of an entire city, which should be done at intervals of fourteen days.

"Third—The difficulty of making obligatory or even of inducing a majority of the population to accept a vaccination which must be repeated so frequently."

"These objections, let it be distinctly understood, do not militate to the slightest extent against the value of the serum as a curative agent, but simply against its practical use as a prophylactic.

"It has distinct uses under the following suggested conditions:

"(*a*) On board of infected vessels during the voyage to prevent the disease spreading among the passengers and crew.

"(*b*) In order to immunize the personnel of those employed in the lazarettos or detention hospitals, as well as those concerned in the unloading or disinfection of merchandise brought by suspected vessels or vessels having had actual cases of plague on board.

"(*c*) On the docks or in the warehouses and stores by those engaged in handling suspected or infected merchandise.

"(*d*) And, most important of all in times of epidemic, for the immediate protection of persons found in contact with the sick or who may be already infected."

Returning again to the Haffkine prophylactic, Calmette continues:

"That the vaccination with Haffkine prophylactic is very useful in infected countries for the following reasons:

"First—That large quantities of Haffkine vaccine may be readily prepared almost without cost and in a very short time by growing cultures of the bacillus of the plague for one month and heating them at 70 degrees C.

"Second—Inoculation by the Haffkine prophylactic can usually be made acceptable without much difficulty, as it produces only a little inflammation and swelling about the immediate site of the inoculation.

"Third—The entire population of a village, city or country may be inoculated with the prophylactic and susceptibility to the disease limited or eliminated, and as a consequence its spread prevented."

It is open to some objections, which he states as follows:

"(*a*) The danger of inoculation to those who have already been exposed to or have contracted the infection.

"This has been fully dwelt on, and deductions may be drawn from the statements already made.

"(*b*) Injection of the prophylactic sometimes produces considerable reaction. It is usually slight, but may sometimes be sufficiently great to oblige those inoculated to take to their beds.

"(*c*) He maintains that 'the prophylactic retains its activity for a period not greater than six months, the combined action of air and light very quickly attenuating the toxicity of the fluid.' This might be avoided by keeping the fluid in the dark in a cool place or in bottles or containers entirely filled and carefully sealed. In this way there can be no exposure to the air.

"There is no infallible remedy against plague. The anti-plague serum is largely effectual and has much diminished the mortality among those treated by it. The serum also possesses valuable prophylactic qualities as detailed above. In the Haffkine prophylactic we have an agent which is readily producible in large quantities, is free from danger when used under proper precautions and with which it is feasible to confer an effectual immunity against plague in whole villages, cities, or districts. Taken in connection with reasonably enlightened sanitary precautions, thorough disinfection, and those measures which have proven of so much value in other contagious or infectious diseases, we may say with certainty or affirm with confidence that in the anti-plague serum and in the Haffkine prophylactic we have remedies with which we can successfully combat a disease which in former times has baffled all human skill."

PROGRESS IN MEDICINE.

GYNECOLOGY.

BY WALTER B. CHASE, M.D.,
ASSISTED BY CARROLL CHASE, M.D.

GONORRHEA IN WOMEN.

Clark (*Amer. Jour. of the Medical Sciences,* April, 1900. *Phila. Med. Journal*) says that gonorrhea in women almost always begins in the urethra. The extension of the inflammation upward is rapid. As a rule, the symptoms are slight and fleeting in character. He quotes Bumm as saying that within 6 to 10 weeks from the appearance of an acute attack the process has entirely healed itself. The tendency is to a complete healing, but there are cases which become chronic despite all treatment, and persist for years. The symptoms in such cases are usually obscure and easily overlooked, but yet sufficiently active to transmit the infection. Gonorrheal inflammation of the epidermal surfaces of the external genitals is always a secondary affection and is not specific in character, but is of an eczematous nature. Unless absolute cleanliness of the parts is maintained, superficial ulcers and even condylomas frequently form. These latter are often attributed by the inexperienced observer to syphilis. True gonorrheal inflammation of the vagina is of rare occurrence compared with that of the urethra and cervix; this is because its epithelium is stratified and it has no glands. Inflammation of the cervix in point of frequency is next to the urethra. Cervical gonorrhea is especially prone to become chronic. In many cases the affection is limited to the cervix, and does not tend to pass the internal os. When it does, however, a general fundal endometritis occurs. There is then constant danger of the disease passing into the Fallopian tubes and forming an acute salpingitis which becomes more or less chronic, and finally terminates in pyosalpinx. The diagnosis of gonorrhea in women is much more difficult than in men, because of the leucorrheal discharge which is more or less normal in women. The certain diagnosis depends very largely upon the demonstration of the gonococcus in the secretions. Great care should be exercised in securing pus for examination, that it may not be contaminated by other organisms. For clinical purposes methylene blue solution is a practical and easily manipulated staining fluid. To make the diagnosis certain the gonococci must be found inside of the pus-cells. Although the results of gonorrheal infection in women is usually most serious, yet it must not be forgotten that a considerable proportion of cases run a simple, mild course. In women, so far as the question of prognosis is concerned, the localization of the pathologic process is the deciding feature. If the case is acute and limited to the urethra and cervix, prognosis is favorable. If the infection gains access to the uterus and becomes chronic, the prognosis as to complete cure is doubtful. Should the disease pass to the tubes the prognosis is still more unfavorable. Concerning the treatment of this infection there are two opposing views, one holding that absolutely nothing should be done in the way of local therapeutics with the view to the self-limitation and self-healing of this disease, while the other insists that active germicidal remedies are indicated from the very onset. The author is of opinion that cleanliness is the first desideratum, and in the majority of cases is the only measure upon which stress should be laid. After 4 to 6 weeks, when the subacute stage is reached, Bumm insists upon local applications; and according to this author the remedies which are based on bacteriologic experiment for their inhibiting effect are absolutely worthless in the treatment of subacute and chronic cases. The author strongly recommends ichthyol in the treatment of gonorrhea. Silver nitrate solution is also recommended. Absolute rest in bed during the acute infection is one of the chief points in treatment. Operation for pyosalpinx may become necessary, and when such is done the author believes in leaving the ovaries and uterus.

RESULTS OF 200 OPERATIONS ON INSANE WOMEN.

Bucke (*Medical News,* August 11, 1900, *Phila. Med. Journal*) says they examined 256 women at the London asylum and found disease of uterus, ovaries or the adnexa in 219 cases. Operation was performed on 200 of these, resulting in 4 deaths. Of the 196 who recovered 83 were cured of their insanity, 45 others were improved, and the remaining 68 are unimproved up to date. Among the 63 cases operated on for causes not gynecological there was but 1 recovery from insanity. He further says the meaning of these facts seems to be that the diseased conditions under consideration, diseases of ovaries and tubes, have the most influence upon the mental health of the patient; that is, the most influence in the causation of insanity; that disease of the body of the uterus and cervix comes next in importance as a cause of mental disturbance; that uterine tumors and tears of the perineum rank still lower, and that ordinary surgical diseases, such as hernia and tumors of the body at large, seem to have no influence at all as causes of such disturbance. No case was operated upon for insanity itself, but only when operation was indicated without reference to the mental condition.

CANCER OF THE UTERUS.

McMurtry (*Amer. Prac. and News,* March 15, 1900, *Buffalo Med Jour.*), as a prophylaxis in cancer, says more operations ought to be done for lacerations of the cervix. A woman between forty and fifty years of age, who has borne children, ought invariably to be examined, and, when the physician finds she has a laceration of the cervix, a deep ulceration in the neck of the uterus, it ought to be repaired. Here is the greatest field of usefulness there is in connection with this disease. It is a very simple operation, it has no mortality, and it brings about a great deal of relief to the patient. All women who have the slightest disturbance of the menstrual function, or any hemorrhage from the uterus after the age of forty, ought to be very carefully examined with a view of finding an old laceration of the neck of the uterus, and, if such a condition be found, it ought to have immediate attention.

Sterile women and unmarried women who have never borne children do not, as a rule, have cancer of the uterus; multiparous women, who have borne a large family of children, are the ones especially prone to cancer of the uterus. The only way this can be explained is upon the hypothesis that there is some connection between laceration of the cervix and cancer; that there is something about the lacerated uterine neck which invites the morbid process.

THE BROOKLYN SURGICAL SOCIETY.

JAMES P. WARBASSE, M.D., EDITOR.

Regular Meeting, February 1st, 1900.

The President, Dr. Walter C. Wood, in the Chair.

LARYNGECTOMY AND EXCISION OF PART OF THE TRACHEA.

DR A. T. BRISTOW presented a patient upon whom, seventeen days before, he had done a total extirpation of the larynx with the upper end of the trachea as far as the second ring for cylindrical carcinoma. Dr. Bristow had first seen the patient on the first of December, 1899, in consultation with Dr. French, for the purpose of deciding whether it was best to subject him to the operation of total laryngectomy. The laryngoscopic appearances are described in the notes below furnished by Dr. French. Careful examination of the adjacent regions of the neck did not reveal any evidences of glandular infection and as the growth itself seemed to be endolaryngeal, it seemed fair to the patient to make an attempt to rescue him from the evident fate before him instead of resorting to the merely palliative operation of tracheotomy. Dr. Bristow said that risks of the graver operation and the chances of an ultimate recurrence were carefully explained, but the patient elected the laryngectomy with all its dangers in preference to an operation which offered not the slightest hope of cure.

Early in the year 1900 the patient presented himself again and complained of dyspnea, a symptom which had not been manifest when last seen at the Polhemus Clinic. Dr. Bristow advised his immediate removal to the Long Island College Hospital, and on the following day did a tracheotomy under cocaine anesthesia for the relief of the dyspnea which was becoming urgent. For the next ten days the patient was put under treatment preparatory to the laryngectomy. He received the usual medication, strychnia, whisky, free feeding, together with rest in bed. For the purpose of minimizing the risks of a secondary pneumonia he was instructed to scrub his teeth every three hours through the day with a mixture of listerine and water, and for a day or two before the operation the nares and fauces were frequently sprayed with the same solution. The speaker determined to operate under nitrous oxide anesthesia which he believed much safer than either chloroform or ether. This anesthetic seemed to him to possess the following advantages over the other general anesthetics: It is much less depressing than chloroform, and thus in great measure eliminates the risk, by no means small, of a sudden death on the table. At the same time it entirely avoids the irritating effects of ether on the bronchial mucous membrane, not to speak of the refrigerating effect on the lung tissue itself, so that one of the sources of a subsequent pneumonia was removed by its use. Finally, if the patient showed during the operation, any signs of collapse the action of the anesthetic would be almost instantly stopped on withdrawing it, a most valuable point in its favor, wherein it differs radically from the other general anesthetics which, although withdrawn, exert their depressing influence for hours afterward, if the patient does not succumb immediately to their evil effects. Finally, the use of the gas effectually prevents vomiting, no small item in its favor when the pharyngeal sutures are considered. In other respects he followed the technique described by Keen in a recent number of the *Annals of Surgery.*

The gas was given for him by Dr. C. J. Mapp, a dentist of Brooklyn, and was easily administered through the tracheotomy tube, although the patient took a little longer to become anesthetized than is customary. A transverse incision parallel with the upper border of the larynx joined a vertical incision which ended at the tracheotomy wound. The larynx was then carefully isolated from the surrounding tissues of the neck, mostly by blunt dissection with here and there a touch of the knife. The separation of the pharynx and esophagus was somewhat difficult and care was necessary to avoid button-holing. As soon as the larynx was clear the patient was put in the Trendelenburg position and the trachea cut through close to the tracheotomy wound, including the first ring. It was then turned upward and removed entirely together with the epiglottis. The pharyngeal wound was carefully sutured and the two incisions closed. Dr. Bristow said that he noticed in the course of the operation that whenever he made strong lateral traction on the larynx there was a tendency on the part of the patient to stop breathing on account of the interference with the superior and recurrent laryngeal nerves. The gas was then shut off and the patient allowed to come to, when the operation and anesthetic were again resumed.

The Trendelenburg position effectually prevented the entrance of blood into the trachea, and rendered unnecessary the use of such cannulæ as those of Trendelenburg and Hahn, appliances to which Keen ascribes the occurrence of sudden deaths on the table. The speaker had himself seen a patient stop breathing on the introduction of the Trendelenburg cannula, nor could respiration be restored. He thought that sudden deaths like this were due to the irritation of the nerves supplying the trachea with sensation. When we consider that these embrace filaments from the sympathetic, pneumogastric and recurrent laryngeal it is not strange such accidents happen. The patient bore the operation well, and was under the anesthetic an hour and twenty minutes. He was entirely out of the anesthetic before the dressing was complete, and recognized with a smile the operator when told that the operation was over. Dr. Bristow said that he made one mistake in the after treatment in that he allowed the patient to swallow milk on the third day. For twenty-four hours after there was no leakage, but then it did occur; and he was obliged to open the transverse incision for drainage as a mild infection took place as a result of this imprudence. Until this occurred the temperature had not ranged much over one hundred. After that it once reached 101, but speedily fell to normal; and the patient was shown to the Brooklyn Surgical Society seventeen days after the operation.

The speaker said that he did not now present him as a successful case of laryngectomy because we do not know that recurrence will not take place. He presented him simply as an evidence of the improvement in the technique of the operation which has hitherto had so high a mortality, more than fifty per cent., that many surgeons have been disinclined to undertake what seemed to them but little more than a forlorn hope. He said that he was convinced that many cases of cancer of the larynx can be permanently cured by excision provided this be done very early in the history of the disease. He was led to this conclusion, first by the anatomical surroundings. In a carcinoma of the larynx we have the disease shut off from the surrounding tissues by a cartilaginous box. Glandular infection occurs in his experience quite late. This patient had been suffering from the disease for two years when he came under the speaker's observation, and yet in December he was unable to find any evidence of glandular involvement. The cases of Semon, twelve operations, nine of them free from recurrence after three years, support this view. We must then reduce the mortality of the operation, Dr. Bristow said, so that we can recommend the operation without being obliged to state that it is attended with a very high mortality. Thus the patient will be more ready to submit to a radical procedure which may be curative, which tracheotomy never can be. To this end the case presented and facts stated are a contribution.

Dr. T. R. French had furnished the following report of the case before the patient was transferred to the care of Dr. Bristow: C. A. R., æt. 37, of medium height and of rather spare build, came under Dr. French's observation in the throat department of the Polhemus Clinic Oct. 11, 1899. He complained of hoarseness which had begun about two years and a half before. There was no dysphagia, dyspnea or pain. On examination the fauces and pharynx were seen to be normal in color and contour. The larynx too was normal in coloring and contour, except its left lateral wall, which was seen to project towards the median line to a degree sufficient to cut off a view of almost the entire vocal band on that side. The portion of the vocal band which could be seen was evidently not involved in the growth, but was somewhat congested. The surface of the growth was irregularly mammillated. In color it did not differ materially from that of the surrounding mucous membrane. The aryteno-epiglottidean fold and arytenoid cartilage on that side were evidently not involved in the pathological process. The laryngoscopic appearances suggested cancer, but the patient's age was somewhat below the lower limit for malignant growth of the larynx. Though no history of specific disease could be obtained it seemed wise to give the patient the benefit of the doubt by administering the iodide of potassium. At the end of three weeks, during which time full doses of the iodide had been taken, Dr. French saw him again. The parts were apparently exactly as seen at the first examination. There was not even the deceptive improvement so often seen in these cases after the administration of the iodides. Dr. French then shaved a piece from a projecting portion of the growth with a laryngeal guillotine and sent it to Dr. J. M. Van Cott, Jr., Pathologist of the Long Island College Hospital, for microscopic examination. A week later he saw the patient again and received a report from the pathologist that an examination of the piece removed revealed epitheliomatous structure. An examination of the larynx at that time made it very apparent that in the seven days which had elapsed since the piece was removed the growth had increased in size. The appearance of increase in size was due, not to an increase of the growth as a whole, but to a development of new tissue at the site of the cut surface made by the guillotine a week before. From that time the whole growth developed rapidly. On December 1st he called Dr. Bristow in consultation. As the growth was still intrinsic, that is, it was confined to the interior of the larynx and did not apparently include the edge of the epiglottis, the aryteno-epiglottidean fold or the arytenoid cartilage, and as the patient's general health was good, they agreed that the total extirpation of the larynx offered a better hope for the patient's future than could be obtained in any other way. The patient was then transferred to the care of Dr. Bristow. For reasons best known to the patient the day for operation was deferred for six weeks after the consultation. After extirpation it was found that the growth had extended far below and far above the limits attained when the larynx was last examined. The total extirpation was advised on the basis of belief that the growth was an intrinsic one, that it was entirely confined within the cartilagenous framework of the larynx. The time which had elapsed between the consultation at which the extirpation was advised and the date of operation was probably, in this case, sufficient to convert the growth from an intrinsic to an extrinsic one. In all cases of suspected malignant disease of the larynx when the growth is intrinsic, before removing a portion of the tissue for microscopic examination, it is wise to obtain the patient's consent to immediate radical operation if the microscopic examination should demonstrate the growth to be of a cancerous nature. Unless it is known that steps may be taken for securing radical relief it is certainly unwise to subject the tissue to an amount of irritation which will almost certainly stimulate a growth to increased rapidity of development. That which is sometimes spoken of as "quiet cancer" may by such interference be converted into an active growth and the end be hastened. The only possible benefit to be derived from the removal of pieces of tissue for microscopic examination from the larynges of patients who we know should not be subjected to or who would not permit radical interference, would be the gratification of the scientific interest of the surgeon.

Dr. Bristow further said that of course where we have a pharyngeal wound as in all these cases, it is to be sutured with unusual care, and the worst thing that could happen to a case of this sort is to have vomiting. The operation in itself was not an operation that the speaker should call one of difficulty. There was not a single ligature used. He did not suppose the patient lost two ounces of blood, and most that he did lose, he lost from the cut made to remove the epiglottis. The only region of the wound where one was likely to get serious hemorrhage is the lower portion of the larynx where the inferior thyroids approach it, but it is easy to push them out of the way. One vessel alongside the trachea jetted when he took out the first ring of the trachea. The troublesome part of the operation he found to be the separation of the larynx from the pharynx, it was rather closely adherent. For the purpose of preventing any blood getting into the trachea, when he came to the dividing of the trachea, he had put the patient in the Trendelenburg position. It is not necessary to do that until just before cutting the trachea; when working outside the larynx there is of course no danger. After the little infection from the pharynx, caused by the too early swallowing of milk in this case, the wound was dressed every eight hours and the most scrupulous care taken by the house surgeon and the nurse in charge, to prevent any possibility of the infection traveling downward into the stump of the trachea, and thence downward into the chest. The tracheotomy tube was kept covered with three or four thicknesses of gauze, moistened in a 50 per cent. solution of glycerine, to act as a filter. The tracheotomy tube was cleansed frequently. In a large measure to the care of the nurse of the ward and the house surgeon the success in this case was attributed by Dr. Bristow, and he wished to accord to them his thanks for their fidelity and painstaking care.

This is the seventeenth day after operation. The patient could whisper so that one could hear him when close to him, and the speaker was of the opinion that as time goes by he will develop more power in his pharyngeal muscles, so that the whisper will be louder. It was an error to allow him to swallow so early. If his pharyngeal structures had been left quiet for a week he might not have had leakage, and the resulting pharyngeal fistula. This is, however, rapidly closing.

Discussion.

DR. THOMAS R. FRENCH said that Dr. Bristow is manifestly a very modest man. The speaker was glad that this patient was able to be present, for he regarded it as a case of much interest; and he could not but feel that the result of the operation was a triumph for the surgeon who performed it. This is the second case of laryngectomy that he had advised, the other case having been operated upon by Dr. George R. Fowler several years ago, the patient living two years after the operation.

The patient under discussion he had seen about the middle of November. He had given a history of hoarseness for about two years and a half. He had been seen by some one in New York who had made a diagnosis of carcinoma, but as he was below the age at which carcinoma usually appears and as there were no characteristic appearances about the growth which made it positive that it was carcinoma, Dr. French had put him on the iodides and kept him on full doses for a month, and at the end of that time finding no change, no modification in the shape or size of the growth, he shaved a piece from a protruding portion of the neoplasm and sent it to Dr. Van Cott, who at the end of a week reported it to be an epithelioma. As the speaker had just said, at the time the piece was cut off there was no change in the size or shape of the growth, but in the week which elapsed after the cutting there was a decided increase in the growth. He then called Dr. Bristow in consultation, and, as it seemed to him that the growth was an intrinsic one, with no evidence of its extension beyond the larynx, it was the proper thing to take out the larynx, for the patient had only one chance, and that was through total extirpation. The patient

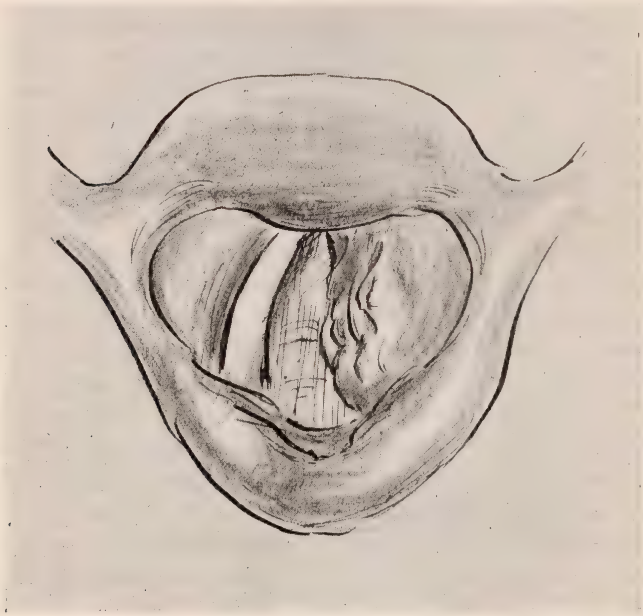

FIG. 1.—Dr. Bristow's case of Carcinoma of the Larynx. Laryngoscopic view. Picture by Dr. French.

waited a month or more to determine when it should be done—he had to wait for some financial or other reason—and the operation was therefore done later than was wise; that is, the speaker should certainly not have felt the same confidence in the result of the operation had he seen the man a month later, or if he had thought that he was going to postpone the operation for a month or six weeks. When Dr. French saw him the last time, on which occasion he advised operation, the picture which the larynx presented was that shown in Fig. 1. It was a mammillated growth covering the vocal band on that side, not interfering with respiration particularly. It was an intrinsic growth, that is,

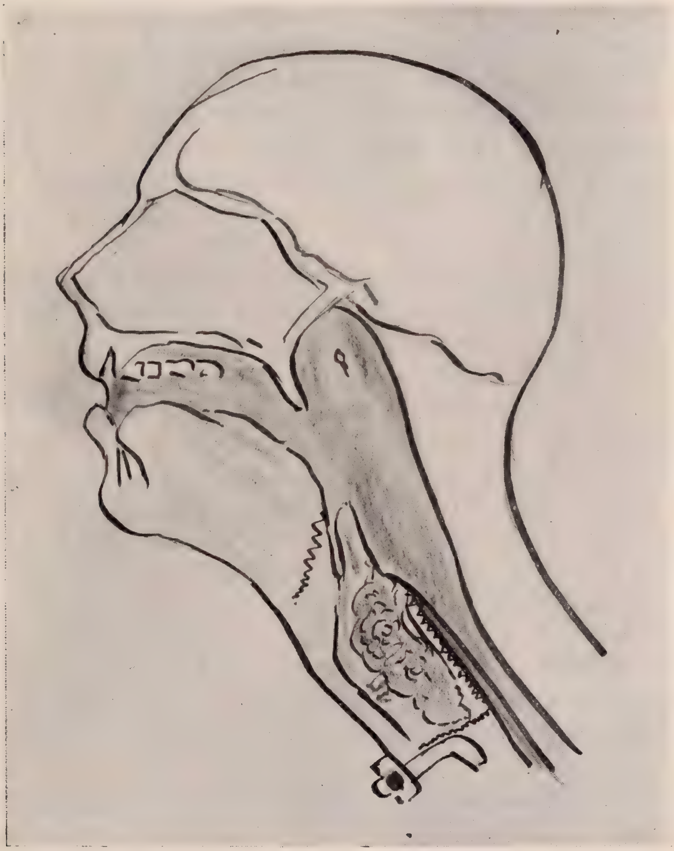

FIG. 2.—Dr. Bristow's case of Carcinoma of the Larynx. Lateral diagrammatic view, showing growth and preliminary tracheotomy. Picture by Dr. French.

one not springing from the epiglottis or from the aryepiglottic fold or arytenoid cartilage, but manifestly entirely within the framework of the larynx. The speaker had been much astonished when, after the exsection of the larynx, Dr. Bristow handed him the specimen, to see that it had grown in that time to about three times the size that it had taken two and a half years to attain. Evidently the irritation produced by the instrumental interference had much to do with the subsequent rapidity of development.

The speaker said that if he might be permitted a word in this connection, he would like to say that in his opinion we have no right to recommend a laryngectomy when the growth occurs other than in the interior of the larynx. That is to say, when there is infiltration in the arytenoid cartilage, or in the aryepiglottic fold, or on the free edge of the epiglottis, radical procedures are not permissible in his judgment.

In this case he was not at all certain that there was not more growth than appeared in the larynx. In all probability at the time of operation it did extend to the glosso-epiglottic fossa. The last time he saw this larynx six weeks before the operation, it seemed to him to be a circumscribed growth, but whether it continued to be so will perhaps be proven by the ultimate result.

It is an interesting observation that in the great majority of cases of laryngeal cancer—and we may say benign growth of the larynx and pharynx—the neoplasm occurs on the left side. He presumed that it is explained by the freer flow of blood and the greater force of the flow of blood on that side.

The tracheotomy tube was introduced at about the third ring, as he understood it. The growth extended from just above the ventricular band to the second ring of the trachea. That it did not infiltrate above the epiglottis into the base of the tongue, he was not so certain.

Dr. W. C. Wood said that in regard to laryngectomy, he had understood Dr. French to say this was only the second case in which he had advised excision of the larynx. He wished to know in what percentage of cases of malignant disease of the larynx Dr. French had advised the operation.

Dr. French presumed that he had been in a position to advise laryngectomy a hundred times, but with the exception of the two cases quoted he had not felt justified in doing so. He said that the cases which he had seen had all been so far advanced that he could not see the wisdom of operation and he had done tracheotomy as a palliative measure.

Dr. French was reminded, by the remarks of the President, of a very interesting paper published by Sir Felix Semon in 1894. He reported 103 cases of carcinoma of the larynx he had seen in private practice; and of those 103 cases, twelve had been selected by him for operation, but all in the early stage. Two of those operations were done for him by Mr. Butlin, one by Sir William McCormack and one by Mr. Hahn, the eight remaining by Semon. All the twelve operations consisted of performing thyrotomy and removing soft parts through the fissure. Of the twelve patients operated upon seven recovered. One very interesting feature in his report is that the voice had returned in three cases, though all the soft tissues had been removed from the side of the larynx; but a cicatrix had formed to take the place of the vocal bands removed. One patient had a normal voice, two had very good voices and the other four voices were not good at all. The question of thyrotomy in carcinoma of the larynx is occupying the attention of laryngologists now to a considerable extent. Twenty years ago Paul Bruns made a collection of all cases of carcinoma of the larynx and the operations which were done to relieve them; and his statistics proved that thyrotomy gave very unfavorable results. Thyrotomy had therefore fallen into disfavor and had not been employed for many years until Semon took it up and obtained the best results thus far reported, that is, 58 per cent. of cures. This only goes to prove that if we recognize the disease early enough it is susceptible of cure. That question is an important one—the early diagnosis in carcinoma. It is often a very difficult thing to make a diagnosis early in the disease.

It cannot often be made fram laryngoscopic observation alone, and we cannot always rely on the microscope alone. If the laryngoscopic appearances and the microscope tally, we have a right to advise radical measures. Prof. Frankel of Berlin reported the successful removal of a carcinoma of the larynx with laryngeal forceps in a man seventy years of age. The growth recurred in a year and he again removed it. There has been no recurrence since, and that was eight years ago. That is a very extraordinary thing; no other man has had such an experience. Some means may be devised for the removal of pieces from the larynx in the early stage of carcinoma without causing irreparable deformity.

Dr. Bristow added, in closing, that there are only two other things that he knew of that could be confused with epithelioma of the larynx or carcinoma of the larynx; one is tubercular larynx and the other is syphilis. By the application of specific treatment we can rule out syphilis; and then we only have to rule out tuberculosis. The tubercular patients expectorate, and if we fail to find the bacilli of tuberculosis, we are then brought face to face with the third alternative, which is carcinoma.

In reply to Dr. French's suggestion that it might be a benign growth, Dr. Bristow said that he meant that these three are the growths which are most common, and which ulcerate. There is this to be said about the larynx, it is a cartilaginous box and restricts the disease. He believed if we can get these cases very early, before infiltration, we ought to have the best results in laryngectomies or in laryngeal fissure of any operations on carcinomata. So far as recurrence is concerned a corroboration of this is the fact that although this disease has been going on nearly two years, there is not at present the slightest glandular involvement anywhere. Where else in the body, he asked, except in the intestine, could we see carcinoma going on for two years and yet have no regional infection?

With regard to the technique he called attention to the manner in which he had stitched up the pharynx. Where the pharynx was attached, the sutures were put in at quarter-inch intervals, the effort being to prevent the giving way of the pharyngeal wound.

FRACTURE OF THE OLECRANON.

Dr. Thomas B. Spence presented a patient, a motorman who had been injured on the 18th of July in the trolley riots. He was thrown from his car, and he thinks the injury was received by a kick over the elbow. The case was treated with the wood splint for a week, and after that kept in plaster for nearly six weeks. It was impossible to get apposition of the fragments except in complete extension of the forearm. There is fibrous union of the fragments, but they are held in nearly complete apposition, and he has a useful arm. The muscles have resumed their usual tone, and he has a good strong arm, as could be seen by testing his grip or the flexion of the forearm upon the arm.

TENORRHAPHY OF ALL BUT TWO OF THE TENDONS ON DORSUM OF WRIST.

Dr. A. T. Bristow reported a case which was of interest because of the injury and because of the remarkable success which had attended the operation of tenorrhaphy. The patient was an

Italian, who had been in a fight with some of his countrymen, and came into the hospital with a tremendous slash across the dorsum of the wrist and another one in the elbow; the wound of the elbow opened the joint. All the tendons on the wrist with the exception of two were divided. The radial artery was visible in the *tabatière* and had been missed by a hair's breadth. The tendons had all retracted and it took a long dissection to discover and suture them properly. The wound was carefully cleansed and put up in the full extended position. The man's hand when he came into the hospital was black with filth and dirt, and a more unpromising case the speaker had never seen, yet there has been not a ripple in his convalescence from the operation. The reporter had not yet allowed the wrist to be flexed nor the fingers to be extended, because he wanted to make sure the union of the tendons was firm and secure. He said that he had no doubt that the patient would regain the full use of his hand. The operation was done on the 13th of January. Chromicised catgut had been used, about No. 1, and the tendons were sutured with the mattress suture. In one tendon he was obliged to do a tenorrhoplasty after the usual method.

ANTHRAX TREATED BY ACTUAL CAUTERY.

DR. W. F. CAMPBELL presented a patient, 33 years of age, a truck-driver by occupation. Just previous to the time he was taken with this difficulty he was handling deer hides. He says, in unloading the truck one day, one of these hides hit him on the head. On January 15th he noticed a small pimple which was situated just about the malar prominence of the cheek. It rapidly increased in size until January 18th, when he came into the hospital. At that time the pustule had reached the size of a medium-sized strawberry; it was dark red in color, and at the apex a crater-like depression was exuding a small amount of serum. A smear was taken and a culture made, and the laboratory report subsequently confirmed the diagnosis of anthrax. On January 18th, at the suggestion of Dr. Bristow, the speaker used the Paquelin cautery and removed the pustule, together with an area of about one inch all around of sound tissue. At the time the pustule was removed the edema was so great that the patient's eyes were almost closed and the tissues about the neck were very edematous. After the cautery was used there was a slight increase in the edema for a couple of days, after which it subsided and the man went on to the recovery which was presented.

The point which Dr. Campbell wished to emphasize in regard to this case is the fact that this is the third time that the Paquelin cautery has been used in Dr. Bristow's service for the removal of malignant pustule, and the fact that in each instance it was successful. This should recommend this method of treatment for consideration.

Discussion.

Dr. Russell S. Fowler said that Dr. Campbell had suggested that we look into the subject of the thermo-cautery for anthrax. He had supposed that this was the accepted treatment of anthrax. The therapy of this condition, he said, depended upon local extirpation and general tonic treatment: that is, as soon as the factory which furnished the bacilli was destroyed there would be no more trouble, and the phagocytes could take care of the bacilli already in the blood. There has been a treatment which has been advocated more recently, that is the use of ipecac, five grains every four hours, and powdered ipecac applied to the pustule. Fifty cases are reported, with no deaths. That is rather unusual treatment. The thermo-cautery should always be used.

STRANGULATED INGUINAL HERNIA; RESECTION OF INTESTINE WITH THE MURPHY BUTTON WITH A MODIFICATION IN TECHNIQUE; RECOVERY.

Dr. W. C. Wood presented a man 48 years of age who had had a large irreducible inguinal hernia for twenty-one years. He had never worn a support. The evening before admission to the Brooklyn Hospital, while lifting, he had felt an increase in the size of the hernia, but no acute symptoms until the following morning when pain, nausea and vomiting began. Taxis was attempted at his home and enemas given, resulting in two movements. The vomiting continuing he was sent to the hospital by his physician for operation. The general condition was good. The hernia was large, very tense and painless. The urine contained albumin and abundant casts. On making a free incision, the sac was found to contain clear dark foul-smelling serum, about a pound of adherent inflamed omentum and a foot of black flaccid small intestine with a perforation that occurred immediately on manipulation. The omentum was removed. Sixteen inches of intestine were resected. The catgut sutures which were used to control the hemorrhage from the edge of the mesentery were left long. The button was then applied in the usual way and the intestine replaced in the abdominal cavity, but anchored to the abdominal wall with the catgut sutures from the mesentery by passing one on either side of the intestine and over one of the abdominal sutures, thus slinging up the seat of operation.

Castration was then done on account of the doubtful vitality of the testicle. The hernial sac was removed, but the neck not closed completely. A wick drain passed down to the button and the abdominal wall was partly closed with cross-sutures of silk-worm gut.

The bowels moved by enema within twenty-four hours and on each succeeding day. At no time was there any distention worth noting and no evidence of restriction of normal peristalsis. The drain was removed the fourth day, the section being free. The button could be felt within the intestine by a probe. On the sixth day thin fluid feces began to come freely through the opening, requiring several changes of dressing daily. This continued for nearly two weeks, ceasing gradually, the wound in the meanwhile granulating rapidly. The button was found in the rectum on the twenty-first day, and the patient discharged from the hospital on the thirty-second day, with the wound healed and digestion good.

The speaker's reason for anchoring the button so that it would be accessible in case of leakage was his previous experience. On opening the abdomen of a patient who had died on the fifth day after the usual button operation he had found a small perforation above the button. Again, in a similar case dying the seventh day, he had found the same condition. Both of these cases had done well until one and two days respectively before death, when evidence of a rapid perforating peritonitis developed. It was his impression that this case would have followed that course if the fecal opening had not been near the surface.

Whether the plan here followed is good routine practice depends upon the danger of obstruction from fixing any portion of the intestine. He was of the opinion that the gut is equally fixed by the adhesive peritonitis that quickly develops at the seat of such an operation. Angulation, resulting from the weight of the button, is avoided, and a safe exit for leakage is provided.

Discussion.

Dr. W. C. Wood said that he would like to know from some of the gentlemen whether they consider it a wise plan to anchor the bowel to the abdominal wall for fear of fistula. He thought it a debatable subject.

Dr. **Russell Fowler** said that in his judgment there is no doubt about the wisdom of the procedure in this case. Most certainly the result would have been fatal had the gut not been anchored in the wound. In these cases in which the gut is extensively involved, the Murphy-button operation must be done very rapidly on account of the condition of the patient, or in which perhaps there may be some slight error in technic which may be overlooked in the operation, it would be extremely valuable to place the gut in the wound and drain. Where drainage is necessary from the condition of the wound itself from long taxis and edematous tissues, it may then be advisable to fix the button near the wound and drain. The weak time generally in these cases is from the fourth to the seventh day, union becoming stronger until the tenth, when it is fairly solid.

RESECTION OF THE COLON FOR CANCER.

Dr. **M. Figueira** presented a specimen from a case in which he had done a resection of the descending colon for cancer. This case came to the hospital with a history of chronic dysentery, and upon examination this mass was found protruding into the bowel within reach of the finger. The sphincter was dilated and the mass pulled down. It was formed by a cancerous mass attached to the descending colon invaginating it into the rectum. It was delivered by the rectum, the gut resected and stitched together and anchored to the anus for four days. The patient recovered.

EXCISION OF APPENDIX VERMIFORMIS, NEPHROTOMY, NEPHRECTOMY, IN THE SAME PATIENT.

Dr. **A. T. Bristow** presented a patient who came into his service at the Long Island College Hospital in the early summer of last year. The patient gave a history of acute appendicitis of twenty-four hours' duration. Previous to coming into the hospital he had been seen by Dr. Wackerhagen, who had made the same diagnosis. Dr. Bristow operated and found the abdomen with some serous fluid in it, a few flakes of lymph and a rigid appendix with an area of intense anemia at the tip. He took out the appendix and closed the wound, and so far as that part of the operation was concerned he did well. The patient continued, however, persistently, running a high temperature. The abdomen continued soft, the bowels moved, and yet he ran a temperature of 102, 103 and 104, for which no cause could be assigned. One day attention was directed to the urine, and in it was found a deposit of pus. A few days after that, Dr. Campbell and the speaker examined the bladder with a cystoscope and found pus coming from the right ureter. Dr. Bristow then did a nephrotomy, following Morris's practice in these cases, to first do a nephrotomy and drain the patient, then let him recover from his sepsis and subsequently do the nephrectomy, if necessary. The patient made an excellent recovery from the nephrotomy. The speaker found a huge abscess of the kidney, which must have been present at the first operation, and a few weeks after that he did a total nephrectomy, from which he made a complete recovery.

The interesting point of the case is that an appendicitis should have developed in connection with the lesion of the right kidney. We all know that Dr. Edebohls lays very great stress on the cases of appendicitis which occur in connection with movable kidney, the pathology of those cases according to him being that the movable kidney makes an obstruction to the venous return of the appendix. If a movable kidney, certainly a very much enlarged kidney can do that, and the speaker supposed it to be possible for an inflammatory process to extend to the appendix, which is probably what occurred here. The renal abscess was an old one, and what is unusual in his experience with these cases, no calculi were found. The kidney itself had been converted into a pus sac, with no kidney structure left. The operation was one of the most difficult nephrectomies he had ever done; the adhesions were widespread and it would have been an impracticable operation, so far as the recovery of the patient was concerned, had he attempted to do nephrectomy at the primary operations. The nephrotomy did two things: it drained the patient and allowed him to recover from his sepsis, and second, allowed the sac to contract so that the operator had something very much more manageable to deal with. The incision made was an incision something like that which Kelly recommends in which one follows the ureter down into the pelvis. It was a modified or extended Thornton incision.

The appendicitis scar is very small; there is a good abdominal wall, without a trace of any hernia. Of course this nephrectomy incision was much longer than the scar. It commenced at the border of the erector spinæ muscle and followed down to the crest of the ileum. The opening for appendicectomy was just about three inches long. The interesting point of the case to the speaker was the relation between the kidney lesion and the appendiceal lesion.

Discussion.

Dr. W. C. Wood said that the point brought out by Dr. Bristow in regard to the relation between the kidney lesion and the lesion in the appendix was worthy of more serious consideration than it has received at the hands of the profession. He had noted that combination of lesions more than once, and he had a case under his care at that time which will probably come to operation with the same double lesion. He thought sometimes the pain being high up in the cases of appendicitis we are apt to consider the gall-bladder far more than it deserves, whereas the second lesion, if there is one, lies in a loose or floating kidney.

THE BROOKLYN SOCIETY FOR NEUROLOGY.

Regular Meeting of the Society, Held May 31, 1900.

The President, Dr. William Browning, in the Chair.

Dr. Walter C. Wood read a paper by invitation on "Torticollis," discussed by Drs. Barber, Haynes and Brush.

Dr. A. C. Brush next read a paper on "Traumatic Sclerosis," an abstract of which is as follows:

TRAUMATIC SCLEROSIS.

The points of the paper are that injury is a competent cause for any disease of the nervous system not due to infection; that diseases so caused do not differ from similar conditions of non-traumatic origin; that in conditions due to traumatism the organic conditions are usually complicated by functional; that violence is one of the most common causes of nervous disease; that in

2000 consecutive cases it was the sole cause in 183, and one of the causes in 74 more; that the relative frequency in the 183 was: Epilepsy 28, hysteria 25, neuritis 18, cerebral hemorrhage 16, traumatic sclerosis 14, myelitis 11, spinal hemorrhage 10, cerebral concussion 10, acute meningitis 9, chronic meningitis 9, insanity 9, traumatic lumbago 6, neurasthenia 5, spinal meningitis 4, chorea 3, locomotor ataxia 3, and cerebral tumor 1; that traumatic sclerosis is a hystero-neurasthenia associated with organic changes in the brain and cord; that it is due to violence usually of such a character as to produce a jarring of the cerebrospinal axis; that the lesions found are secondary to those produced in concussion or commotion of the brain and cord; that in three fatal cases of the author's the findings were flattening of the cortex, thickening of the pia, arterial degeneration, thinning and discoloration of the cortical gray matter, cerebral hyperemia, dilatation of the ventricles, similar changes in the cord, diminution in number and changes in size and shape of the nerve-cells, small areas of connective tissue and areas of degeneration; that the invasion of the disease is slow and not until several months or years after the injury; that the intervening period is usually filled by a condition of functional disturbance of the nervous system; that the symptoms will vary in the different cases with the character and extent of the lesions; that the symptoms of the disease itself are headache, vertigo, changes in the mental conditions, insomnia, changes in the speech, nystagmus, changes in the pupils, tremor, loss of strength, changes in the reflexes, ataxia, areas of anesthesia, changes in the vision and hearing, vesical and rectal incontinence; that besides these symptoms we have the ordinary ones of neurasthenia and hysteria; that the duration of the disease varies: in the three fatal cases it was from six to thirty-six years; that the disease is irregularly progressive but often remains stationary for considerable periods; and that improvement does not occur in the symptoms due to the organic conditions, but may occur in the symptoms due to hysteria and neurasthenia.

Dr. L. J. Morton said he had seen one or two cases, due to injuries, at Dr. Landon Carter Gray's clinic in which fright was thought to be the determining cause; one was a cigar-maker, aged 35; after an altercation with a customer he found himself nervous, and in due time followed the symptoms of disseminated sclerosis; at the autopsy vascular and other lesions in white and gray matter of the spinal cord were found, he having had difficulty of speech, tremor and exaggerated reflexes. The next case was a boy, 18 years old, who was frightened by one of his companions flinging a live goose at him; became so ill that he had to take to his bed; developed intention tremor; lived three or four years, none ever lived more than five years after the causing accident, and died. At the autopsy the same conditions were found; cord looked as though fine pepper had been scattered over it. In another case of traumatic disseminated sclerosis the pathologist found only external pachymeningitis.

Dr. Coombs asked if there was any history of specific disease in the cases reported and was answered none. He said so far as the cases reported, though apparently traumatic, possibly this was a mistake. Back of the accident or excitement, and back of all were the contributing causes of defect of brain-cell and nerve-tissue which allow the trauma to cause these effects. In other words, different people have different nervous systems, which allow of different effects, many effects, or none. Specific disease is a more frequent cause of a sclerotic condition than we care to believe.

Dr. Morton, like Dr. Coombs, would like to ask this question: why, if syphilis is so common a cause of nervous diseases, in one it produces paresis, another locomotor ataxia, and another lateral sclerosis, and another insular disease or multiple sclerosis, why don't all have the same form of disease; why this variety? "And I find no answer. One writer says that in each one there is a loss of blood-supply, causing deficiency of nourishment. This is all good, but I want a better one, and agree with Dr. Coombs that syphilis is a more common cause than the average writer believes. I find almost universally syphilis and rum in locomotor ataxia."

Dr. Coombs, replying to Dr. Morton, said all people are not built alike: one taking cold has pneumonia, another rheumatism, another pleurisy, and so on; just so, perhaps, are people's nervous systems different in build and environment, and so different effects of same cause in different individuals, as with drugs, have different action and effect on different people.

Dr. Barber remarked that syphilis is a poison, and affects the weak spot in the body somewhere, even lung and bone tissue.

Dr. Haynes said he had been interested in his study of disseminated sclerosis in noticing how what may be termed the "traumatic" authorities were coming over to the belief of the "disease" authorities, that trauma had very little to do with this condition; that whereas, they formerly exploited this disease as one of the train of conditions surely following a serious trauma, now they merely said it may be a cause, without dilating on the condition, while it is more and more coming to be written on as due to some infection, as we see in children following measles, and in the adult following influenza, and such like; in fact, it seems to be coming more and more to consider these early symptoms simulating multiple sclerosis as due to traumatic hysteria, a condition not easy of discernment. The chief diagnostic symptoms, as laid down by Sachs in his recent review of the literature of this subject, are thenystagmus, optic atrophy and speech difficulty. Without these distinguishing marks we cannot be too careful in making such a diagnosis, and when we come to consider the pathology of the disease it is not easy to see how a trauma, whose effect must somewhere be chiefly local, can cause such a general effect; as we know by analogy that a trauma of any other organ will cause a local hemorrhage, abscess or inflammation at that point, but not of itself a few years after, say in the other kidney or lung, or lobe of liver, or limb; or say, that the injury is sufficient to cause numerous small hemorrhages, what is the result in other organs of the body—namely, coagulation, absorption and restored function, or remain latent unless infected; for who ever heard of general cirrhosis of the liver, kidneys or lungs due to trauma? And why should we not expect the same results in these conditions of the nervous system? So that, so far as present knowledge went he was disposed to be doubtful about classifying this as one of the results of trauma, but more as a general affection of the nervous system due to an infection; the trauma making the nervous system more vulnerable, if you please.

Dr. Brush, in closing, said the people had all been previously healthy; all hospital cases; the histories carefully taken, and no other cause found. The first case was specially characteristic of this class in which showed the changes from multiple hemorrhages to sclerosis, to death of tissue, hemorrhage, and scars; she died in transition stage and showed the changes well. He purposely mentioned only cases due to injury; they were not hysterical; the condition was present in some cases, but the other symptoms were well marked also. Now as to authorities: Bailey speaks of the condition under the head of traumatic hemorrhages, Dana under multiple sclerosis, and Knapp under the title of traumatic sclerosis. Unfortunately the subject has its medico-legal side, but he has purposely omitted any suit for damage cases, many of which are hysterical. The fine tremor of limbs and coarse intention tremor, and increased on prolonged effort, the eye symptoms which never occur in hysteria point unerringly to concussion and cerebral sclerosis.

Dr. Wilsey's invitation to visit his institution at Amityville in lieu of the June meeting was accepted.

The Committee on "The Proper Care and Treatment of the Inebriate" made a preliminary report through its chairman, Dr. A. C. Brush, as follows:

REPORT OF THE COMMITTEE ON THE CARE OF HABITUAL DRUNKARDS.

The Committee respectfully present the following report:

The common law assumes that every person, unless he is adjudged insane, is of sound mind, has a knowledge of right and wrong, and the power to control his impulses, and the law therefore holds every one responsible for his acts, unless he is suffering from such a disease of his mind that he is incapable of appreciating the nature and quality of his acts, and that his acts are wrong.—(Crim. Code, 729.)

The Constitution of the State provides that no member of this State shall be deprived of any of his rights or privileges except by law or judgment of his peers.—(N. Y. Con., Art. 1, Sec. 1.)

The law further recognizes that certain persons are, by reason of idiocy, lunacy, habitual drunkenness, or imbecility arising from old age or loss of memory or other causes, incapable of managing their persons and property, and designates such persons as incompetent persons, and the care of such incompetent persons is vested in the jurisdiction of the Supreme Court (Civil Code, 2320); said jurisdiction is to be exercised by a committee of the person and property (Civil Code, 2323), and the question of fact as to the competency must be tried by a jury at a trial term of the court (Civil Code, 2327).

The law further provides in one class of said incompetent persons—those suffering from lunacy—that they may be committed to certain institutions for treatment.—(The Insane Law, Chap. 545, Laws of 1896.)

Your committee therefore contend that if one class of incompetent persons can be so dealt with, that the same methods would be applicable to another. Your committee therefore recommend that a law be enacted providing that persons who, by reason of the use of alcohol or other drugs, have become incompetent to manage their persons or property, can be confined in certain public or private institutions; that these institutions be designated by the State Commission in Lunacy; that the commitment shall be made after the plan of the commitment of the insane; that the plan shall be formulated by the said Commission; that persons so committed shall be confined for certain periods of time as follows: In the case of the first commitment, six months; for the second, one year; and that the periods shall be doubled for every succeeding commitment; that certain wards or parts of certain public hospitals shall be designated and licensed by the State Commission of Lunacy to care for pauper patients of this class; and that certain parts of private institutions now licensed for the care of the insane may also be so designated for the care of non-indigent patients of this class.

The President appointed Dr. Thomas M. Lloyd delegate to the thirteenth International Congress from this Society.

W. H. HAYNES, Secretary.

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LONG ISLAND MEDICAL SOCIETY.

E. E. CORNWALL, M.D., EDITOR.

The ninety-fifth regular meeting was held on the evening of June 5, 1900. The President, Dr. A. C. Brush, was in the Chair.

Dr. P. C. Jameson read a paper on "The Bacteriology of the Conjunctival Sac and Its Bearings on Surgical Procedure," which was discussed by Drs. J. C. Hancock, B. W. Collins, W. E. Butler, and E. E. Cornwall. As this paper will be published in full elsewhere, no further report of it is given here.

Dr. C. L. Kerr reported seven cases of pertussis treated by rectal injections of carbonic acid gas after the method of Bergeon, the results of which he thought were sufficiently good to warrant a more extended trial of this method, especially in those cases in which the administration of drugs is contraindicated.

The technique of the administration was as follows: In a pint bottle two-thirds filled with water were dissolved six drams of bicarbonate of soda and four drams of tartaric acid. The gas generated by this mixture was carried into the rectum through an ordinary rubber tube to which was attached a hard rubber rectal nozzle. The séances were five to ten minutes in length, and were given two or three times a day.

This treatment in most of the cases reported produced a distinct diminution in the number of paroxysms and the amount of vomiting, but had no effect on the duration of the disease. In three of the cases a tendency to diarrhœa was observed, doubtless due to the mechanical irritation of the gas. In all but one of the cases a marked flushing of the skin, which lasted about ten minutes, followed each séance.

DISCUSSION.

Dr. J. O. Polak spoke of the use of carbonic acid gas by intravaginal injection in the vomiting of pregnancy, in which condition he had found it very useful. He had noticed the same flushing of the skin following its use which was noticed by Dr. Kerr.

Dr. C. R. Hyde wished to know how the gas produced its therapeutic effect.

Dr. C. L. Kerr, in answer to Dr. Hyde's question, said that according to the theory of Ephraim, the good effect of the gas was due to the increased amount of oxygen which reached the air-vesicles, there to be exchanged for the larger amount of carbonic acid contained in the blood in consequence of its absorption of the gas from the rectum. In this connection Dr. Kerr thought the fact significant that children with pertussis do better in the open air where they get plenty of oxygen.

Dr. E. Hodges read a paper on "Pseudo-Ethical Proprietary Preparations," of whose contents a brief summary is here given.

The pseudo-ethical proprietary preparations are a greater menace to the financial prosperity of the medical profession than the out-and-out quack nostrums, for the latter are working out their own destruction. The manufacturers of the former are laboring constantly to create a popular demand for their products. They make it easy for patients to get their products without a prescription by stamping their tablets with some characteristic letter or device, by blowing the name of the contained liquid in the panels of the bottle, and by giving their products ingenious names which stick easily in the patient's memory. The manufacturers are constantly urging physicians to prescribe their products in the original bottles, so that the patient may become familiarized with the name of the article if he has not got it from the prescription. And when the patient recognizes the name of one of these medicines in the drug department of a department store, and buys a bottle there at a bargain, and reads the brochures on its use and the copies of letters from physicians which are wrapped around it, its popularization is well under way.

As practically all these pseudo-ethical preparations can be duplicated in the pharmacopœia, or in the stock preparations of reliable chemists, or by extemporaneous prescription, it is strongly to be recommended that physicians cease prescribing them, and thereby cease to give them a respectable standing. A very large class of people who would not think of buying a nostrum advertised in the newspapers will resort to these pseudo-ethical preparations when they find that they are prescribed by physicians of good repute and even endorsed by them.

In this paper Dr. Hodges gave a particular account of a number of these preparations, and also the history of the unfortunate relations of some eminent physicians with some of them.

DISCUSSION.

Dr. A. C. Brush cited the law forbidding the sale of any proprietary remedy whose formula is not printed on the bottle which since the time of Napoleon has been in force in France, and regretted that this country could not enjoy such a beneficent law. He described the attempt that was made in Ohio to secure such a law and its failure because the United States Copyright Law nullified it. He thought that publicity and popular enlightenment were the most available weapons we had against proprietary remedies.

Dr. H. T. Hotchkiss described the effect on one of his patients of the use of a proprietary catarrh cure which the patient took on his own responsibility. The effect was cocainism and insanity. He deplored the difficulty of obtaining legal relief, and thought the best we could do under the circumstances was to educate the people.

Dr. W. S. Hubbard thought that proprietary remedies should be analyzed and their formulæ published in the medical journals.

Dr. E. E. Cornwall thought that the pseudo-ethical proprietary preparations which were not advertised to the public through the newspapers, but only through their labels, although deserving of condemnation, were less of a menace to the public health and to the financial prosperity of the medical profession than the quack nostrums which made no pretense whatever to being ethical, but were advertised with unblushing mendacity and prescribed in the newspapers, and sold by the druggists on the newspaper prescriptions. Dr. Cornwall thought that in the medical consultation of a newspaper by a patient and the filling by a druggist of the newspaper prescription, medicine was practised without a license. He suggested that if it were true that we had no legal remedy against the quacks, we might fight them with their own weapons by publishing in the newspapers from time to time accounts of the horrible failures of much-advertised quack medicines.

Dr. Mills described some of his experiences as a druggist with proprietary remedies.

Dr. H. N. Hoople advocated agitation for a therapeutic section in the Kings County Medical Society.

Dr. E. Hodges, in closing the discussion, gave the results of his analysis of several of the pseudo-ethical preparations and his opinion of them. He excepted from his general condemnation a few which were definite chemical combinations of approved value, though they had the misfortune to be sold under copyrighted names.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department shold be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

The medical profession of the city has been pretty well scattered over this and other countries during the summer months;

apparently the travelers have outnumbered the stay-at-homes, if one may judge from the stories of patients who have walked the streets in quest of medical aid, or if it is indicated by the absolute dearth of news items received by the editor.

Dr. George W. Brush has returned from a seven-weeks' trip to Alaska; and Dr. J. A. McCorkle from a trip to the Rocky Mountains and Alaska.

Dr. T. M. Lloyd, who was appointed delegate from the Brooklyn Society of Neurology to the International Medical Congress at Paris, joined a party which included Dr. George R. Fowler and family for a tour of Norway.

Dr. D. G. Bodkin arrived home from Europe on the 3d of September.

Dr. C. E. Gardiner of the house staff of Kings County Hospital returned the middle of September, after a six-weeks' trip to the Paris Exposition.

Dr. Henry Noss, formerly of Jay street, who in May moved to Burbank, N. Y., has so far recovered that he is able to be about somewhat on crutches. He plans to take up office practice at least in Brooklyn next winter.

Dr. William H. Skene, who has been located lately in Portland, Oregon, announces that he will continue the practice of the late Dr. Alexander J. C. Skene at the old office, 167 Clinton street.

The Verein deutscher Aerzte of Brooklyn will hold the regular scientific and social meetings the first Tuesday of each month at Schwaben Halle. Dr. H. P. Bender is the president, and the secretary, Dr. Otto Frischbier. The membership includes a large part of the German-speaking members of the profession.

The last meeting of the Medical Society of the County of Kings, at which the Brooklyn water-supply was discussed, was a most notable one, and full of interest to the profession. Papers were read by Mr. Alfred C. Tuttle, Assistant Engineer, Department of City Works, subject "Water-shed, Sources, and Amount of Supply and Consumption;" Mr. George W. Fuller of New York, expert on water purification and sewage disposal, subject "Purification of Brooklyn Supply;" Mr. Hibbert W. Hill, formerly in charge of the biological laboratory of the Department of Health at Rockville Center under Commissioner Emery, and since then director of the biological laboratory of the Boston Board of Health, subject "Biology of Brooklyn Water."

The Long Island Medical Society will begin holding meetings in the County Society Building the first Tuesday in October.

Dr. Julian C. Rappold, Sr., of Flushing avenue, died August 3d; Dr. William B. Waterman of South Ninth street, August 20th; and Dr. Frank S. Milbury of Jefferson avenue, August 28th.

At the Bedford Dispensary there are two clinics, the eye and ear, and the nose and throat, which Dr. Milbury held, that are vacant.

Dr. Stewart Church has returned after an extensive trip in Europe.

Dr. D. M. Woolley arrived in Brooklyn last month after an absence of four months in Europe.

A section on Materia Medica, Therapeutics and Pharmacology of the Medical Society of the County of Kings has been formed. Dr. F. S Kennedy is chairman and Dr. J. F. Golding, secretary. Stated meetings will be held on the first Tuesday of each month; and the annual dues will be one dollar.

A Clinical Laboratory has recently been organized at the Polhemus Memorial Clinic—the funds being provided by Mrs. Polhemus. Prof. Bartley and Prof. Van Cott are the directors; and the men in immediate charge are Drs. Sewall Matheson, Raymond Clark, W. A. Jewett, M. F. DeLorme, and W. S. Johnson. It was organized for instruction and drill of students in chemical and microscopical diagnosis. Special apparatus has been imported from Europe.

The regular Fall meeting of the Associated Physicians of Long Island will be held October 6th, at East Hampton. The special train will leave Flatbush avenue about noon, lunch being served on the train. The members will be the guests of the village of East Hampton at dinner. The Brooklyn members of the Association are urged to attend, as an enjoyable time is promised.

NEW BOOKS AND BOOK NOTICES.

All books received by the JOURNAL *are deposited permanently in the Library of the Medical Society of the County of Kings.*

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONERS' INDEX. E. B. Treat & Co. This work has a well-established reputation. It is a fair record of the advance made in therapeutic knowledge. New methods of diagnosis and treatment are the subjects dealt with.

A HAND BOOK FOR NURSES. By T. K. Watson, M.D., Edin. American Edition under the Supervision of A. A. Stevens, A.M., MD. Cloth, $1.50. W. B. Saunders, Philadelphia.

To place before the nurse the knowledge she will require in the exercise of her art is no easy task. The authors of this work appear to have well fulfilled it, while not undertaking to teach too much they have gone into the subject sufficiently. The volume is well illustrated.

SAUNDERS' QUESTION COMPENDS NO. 17. Essentials of Diagnosis, Arranged in the Form of Questions and Answers, prepared especially for Students of Medicine by Solomon Solis Cohen, M.D., and A. A. Eshner, M.D. Second edition bound and enlarged. Illustrated. W. B. Saunders, Philadelphia, 1900. Cloth, $1.00.

This book is designed to facilitate true methods of study. It is elementary in character and represents but the outline of the subject with which it deals. It will prove a very useful book—and exactly what the authors represent it.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE, by Charles E. de M. Sajous, M.D., and one hundred associate editors. Vol. V. J. A. Davis Co., Publishers.

This volume is a remarkable one. It contains contributions from almost every specialty. Otology, laryngology, ophthalmology, neurology, pediatrics, obstetrics, therapeutics, etc., besides medicine and general surgery. The articles are not reproductions of old material, but place the questions before the reader in a new aspect; in short, they are in keeping with the progressive thought of the day. To the specialist, surgeon and general practitioner this volume, as its predecessors, will be useful as a guide and reference book.

A TEXT-BOOK OF MEDICAL TREATMENT OF DISEASES AND SYMPTOMS for the Use of Students and Practitioners of Medicine. By Nestor Tirard, M.D., F.R.C.P., Professor of Principles and Practice of Medicine, King's College, London. Adapted to the U. S. Pharmacopœia by E. Quin Thornton, M.D., of Jefferson Medical College, Philadelphia. In one octavo volume of 624 pages. Just Ready. Cloth, $4.00 *net.* Lea Brothers & Co., Philadelphia and New York.

The preface of this work contains some interesting statements, that this book is an attempt to supply a want created by the present system of medical education, that the subject of treatment is dealt with in most text-books so briefly and in such a general way that little help is afforded in practical work.

If the conditions so stated exist then it is high time for professors and authors to correct them. We are disposed to think that the author of this work was unmindful of many institutions and some late works when he expressed such views.

Let us turn the pages; we will expect to find neither general statements nor brevity, for they are the faults to be eliminated. Acute pericarditis is the first subject. The whole question is exhausted in two pages. We are warned to use certain drugs cautiously, but no mention is made of dose or the means for counteracting untoward effects. The operation of paracentesis pericardii is denominated a small one and no suggestions as to asepsis are discoverable. In endocarditis the author informs us that *palpitation* may be controlled by the employment of digitalis, either the infusion or the tincture, while some cases appear to improve greatly during the administration of stimulants, loss in force and increase in rapidity are given as signs to check the administration of the latter—we are told no more about these important therapeutic measures. A professor would be criticized for his brevity if he thus passed them over.

Of the treatment of peritonitis we are told much in ten pages. Poulticing, leeching and their kind are pretty thoroughly gone over, even puncturing of the distended intestine through the abdominal wall is mentioned as a method of relieving tympanites, but the author considerately adds that it can scarcely be adopted in the majority of the cases of peritonitis since the distention of the intestine is so greatly the result of partial paralysis of the muscular coat. A review of our present knowledge of the etiology and pathology of this inflammation would make a fine parallel to this chapter.

Ten pages are devoted to the treatment of typhoid fever. The directions as to reduction of temperature are general and brief, one would expect a most minute description of the Brand method, but he will not find such. We find no mention of the use of ichthyol in erysipelas. Some other omissions might be remarked.

It is hardly necessary to cite more examples to show that the author has not effectually bridged over the gap he pictured to exist between theory and practice.

We desire to say that as a reference book on treatment this volume contains much of value. It scarcely could be expected to deal very thoroughly in 624 pages with a subject which has furnished new material for a year-book of similar size.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare, M.D., assisted by Charles A. Holden, M.D. Vol. II. June, 1900. Lea Brothers & Co., Philadelphia.

Surgery of the abdomen, including hernia-gynecology; Diseases of the blood; Diathetic and metabolic diseases; Diseases of the glandular and lymphatic systems, and Ophthalmology are the subjects dealt with in this volume. The same plan is adhered to which has been followed in previous volumes, to give a rapid and concise view of the progress made in various departments. It will save a great amount of reading and enable the student to obtain thorough information on matters of importance.

The Anatomy of the Central Nervous System of Man and of Vertebrates in General. By Prof. Ludwig Edinger, M.D., Frankfort-on-the-Main. Translated from the Fifth German Edition by Winfield S. Hall, Ph.D., M.D., Professor of Physiology in the Northwestern Medical School, Chicago, Assisted by Philo Leon Holland, M.D., Instructor in Clinical Neurology in the Northwestern University Medical School, Chicago, and Edward P. Carleton, B.S., Demonstrator of Histologic Neurology in the Northwestern University Medical School, Chicago. Illustrated with 258 Engravings. 6½x9½ inches. Pages xi-446. Extra Cloth, $3.00. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

In the dedication this book is called "an attempt at a Comparative Anatomy of the Brain," and this fairly designates the scope of the work, though the cord receives some little attention. While issued under another guise, it is practically a much enlarged edition of his "Twelve Lectures on the Anatomy of the Central Nervous System," the first German edition of which appeared in 1885; to that two large sections have been prefixed, dealing with the neuron and with neuromorphology. It is somewhat comparable to Gordinier's treatise (review in the JOURNAL for March), and to Barker's (v. review in JOURNAL for July), though dealing far less with the neuron than the latter.

Many of the former plates are used as well as some new ones. As a whole, however, it is not as fully illustrated, and to that extent lacks a little of its peculiar value for students. In none of the American editions are the illustrations quite as perfect as in the original, a slight indistinctness in the lines being noticeable; in many cases this is immaterial. The occurrence of German words on cuts must, however, be regarded as objectionable, despite their frequent explanation below.

The text follows the German diction rather closely, though as a rule there is no difficulty in understanding it.

In the old part of the work new material and side-discussions are introduced in finer type; this includes an interesting attempt at a closer correlation of the physiological and clinical facts with the anatomy. As an example might be mentioned his resurrection of the old idea that a slight early hydrocephalus may favor greater intellectual development (p. 206-7), or again the brief consideration (p. 252-4) of affections of the internal capsule.

The subjects of the meninges, the various spaces, the cerebrospinal fluid, and the circulation in general are not included in the scope of the work.

Three elaborate indices are provided, one of authors, one for the comparative part, and one general.

This work can be commended as one of the best, most intelligible and thoroughly trustworthy in any language, so far as concerns its own field. The author is an original worker and is thus able to present things in the best manner.

WILLIAM BROWNING.

REPRINTS RECEIVED.

XIII. Congrès International de Médecine. Résumés des rapports présentés à la section:

de Psychiatrie. Paris, Masson, 1900. 45 p. 8°.

de Bastériologie et Parasitologie. Paris, Masson, 1900. 16 p. 8°.
de Neurologie. Paris, Masson, 1900. 49 p. 8°.
de Gynécologie. Paris, Masson, 1900. 20 p. 8°.
d'Anatomie Descriptive et Comparée. Paris, Masson, 1900. 5 p. 8°.
d'Histologie et Embryologie. Paris, Masson, 1900. 2 p. 8°.
de Stomatologie. Paris, Masson, 6 p. 8°.
de Médecine et Chirurgie Militaires. Paris, Masson, 1900. 36 p. 8°.
d'Obstétrique. Paris, Masson, 1900. 18 p. 8°.
de Dermatologie et de Syphiligraphie. Paris, Masson, 1900. 104 p. 8°.
d'Otologie. Paris, Masson, 1900. 19 p. 8°.
de Thérapeutique Pharmacologie et Materière Médicale. Paris, Masson, 1900. 16 p. 8°.
d'Anatomie Pathologique. Paris, Masson, 1900. 38 p. 8°.

WOOD (W.). Rampancy, the fervor of the forehead. A study of the anterior metopic lobule. Repr. N. Y. M. J., June 23, 1900. 13 p. 12°.

DENISON (C.). Educational and legislative control of tuberculosis. Degenerative results of deficient ventilation. Repr. J. Am. M. Assoc., July 14, 1900. 15 p. 12°.

Detroit College of Medicine. Announcement for Session of 1900-1901. 56 p. 8°.

LYDSTON (G. F.). Medicine as a business proposition. Chicago, 1900. 32 p. 8°.

STENGEL (A.). Aortic regurgitation with remarks upon Flint's murmur and paroxysmal sweating. Repr. Pennsylvania M. J., Nov., 1899. 24 p. 12°.

STENGEL (A). The immediate and remote effects of athletics upon the heart and circulation. Repr. Am. J. M. Sci., Nov. 1899. 10 p. 8°.

STENGEL (A.). The diagnosis of chlorosis and chloro-anemia. Repr. Univ. M. Mag., April, 1900. 10 p. 8°.

STENGEL (A.). Acute enlargement of the thyroid gland, with report of cases. Repr. Univ. M. Mag., June, 1900. 10 p. 8°.

Report of the committee of the American Surgical Association on the medico-legal relations of the x-rays. (Dr. J. William White, chairman.) Repr. Am. J. M. Sci., July, 1900. 4 l. 8°.

LANDON C. GRAY, M.D.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 413th Stated Meeting, Thursday, April 12, 1900.

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION VII.—ALGERNON T. BRISTOW, A.B., M.D., CHAIRMAN.

Nasal Reflex Neuroses in a Patient of Neurotic Type.... 803
Heber N. Hoople, A.B., M.B., M.D.

Sarcoma of the Nasal Mucous Membrane; History; Slides. 814
Algernon T. Bristow, A.B., M.D.

Quiet Iritis; Patient; History.............................. 823
John W. Ingalls, A.B., M.D.

Orbital Cellulitis; Patient; History........................ 824
Heber N. Hoople, A.B., M.B., M.D.

Nasal Reflex Neuroses in a Patient of Neurotic Type.

Heber N. Hoople, A.B., M.B., M.D.

V. G., now 24 years old, of medium size, weight, and vigor, has no longer any physical ailment except occasional headaches, but she is evidently neurotic in type.

At 11 years of age she presented irregularities of the teeth which she describes as having consisted in overlapping of both upper central incisors by the adjacent laterals, failure of right upper canine to make complete eruption and crowding backwards out of line of the right inferior canine, the irregularly on the left side being more resistant to force employed to straighten than that on the right. The process of straightening was commenced thirteen years ago, in June, 1886, was very painful, and was continued for one year before being completed on the uppers. It was noticed that when those on the right side were being put on tension a distressing pain felt from the incisors to the molars on that side, extended upward along the right side of the nose to the inner canthus of the right eye; this was never noticed on the left side. During the second year work was begun on the lowers, but was discontinued because of discomfort in the eyes. A homeopathic oculist in New York was consulted, who prescribed at different times, first, + .50 D. S., next, + 1.00 D. S., afterwards + 1.25 D. S. and finally + 1.75 D. S. The disturbances not abating, he advised tenotomy of the *right* internal rectus. Accordingly this was done in May, 1889, nearly three years after treatment had begun on the teeth. It gave relief for two days, after which the pain returned as severe as before. Six weeks later (June 12, 1889) a similar tenotomy was done on the *left* internal rectus. A month later (July 12, 1889) another tenotomy was done on the right eye, and again three months later on the same eye. After these tenotomies internal rotation of the right eye was lost and advancement of the internal rectus was done to restore it (December 16, 1889). The stitches slipped, making the operation a failure. It was repeated with no better results (March 20, 1890), so that it had to be repeated again under ether. No help was obtained from any of these operations. On the other hand, a rapid increase of pain was felt after each. An esophoria of 14° for distant and 10° for near vision *before* any tenotomy, became 30° for distant and 14° for near vision, with 6° difference in sursumduction after the first tenotomy. At the time of the last tenotomy (March, 1890), four years after the first work on the teeth, the right upper lateral incisor began to pain. Examination by the dentist revealed nothing there for him to do, yet the pain continued without relief until in three months it became intense and was accompanied by swelling and the formation of two large abscesses. These were lanced and emptied, and drainage was attempted by drilling through the root of the tooth (February, 1891), the crown having first been opened and the pulp treated. After this pus began to be discharged through the right naris and then the tooth was extracted. Discharge continued four months, when antrum inflammation was diagnosed. Three months of treatment begun in July, 1891, did not improve it. An operation was then done in a homeopathic hospital to perforate the alveolus into the antrum through the site of this tooth. Slow repair took place, followed by suppuration again in four months. It was again opened (April, 1892). It continued to discharge for one year, being dressed by the patient herself until April, 1893, when the discharge stopped. Whilst she was in hospital after the antrum operation (in 1891), she had retention of urine (stated to be albuminous), which was removed by catheterization for a considerable period. Such a variety of symptoms manifested themselves that several physicians connected with the hospital made differing diagnoses, *e. g.*, enlargement of the liver, floating kidney, tumor of the right side, attack of progressive locomotor ataxia, myelitis, chorea, neuritis, hysteria, ovarian tumor, etc. After the discharge from the antrum ceased, a new symptom came on, a peculiar rasping cough. Her former oculist having died, she consulted a second, because of the great increase in her trouble with the eyes. He prescribed for her, O. D. + 2 D. S. + .50 c. a. 90°; O. S. + 2 D. S. + 1.00 c. a. 90°, giving her her first correction for astigmatism. It was after this (in 1894) when I first saw the patient, examined her spectacles and found them a fairly good correction for her refractive error. The oculist finding the interni weak, had added prisms of low degree, base in, which seemed to add to her comfort. Besides her eye trouble, she had had for more than a year an irresistible, useless cough which would break out after walking, deep, quick breathing, laughing, or any slight exertion. It was a peculiar cough, trumpet-like, as if an enormous effort was called for to scour out the throat, or expel some iritant from it. It sympathetically affected every one who heard it with a feeling of pity for her. It was always followed by a quick nasal inspiration accompanied by throwing the head backwards with a jerk, which ended by complete approximation of the *alæ nasi* with stoppage of the current of inspired air. She explained that she did this to relieve a feeling of stoppage in the ears. What was afterward found made it clear to me that she was then having the initial condition of tubal catarrh.

My first examination revealed a pair of ivory-white vocal bands and as healthy an interlaryngeal mucous surface as I had ever inspected—a very important fact. I next examined the chest and found a normal respiratory murmur over its whole surface. Each heart-sound also was normal, but the heart-beat was unusually frequent. There was no trace of aneurism. The right naris was found occluded by pressure of its middle and inferior turbinates against the septum and sensitive touch of the probe which elicited coughing. A spray of cocaine solution into that nostril immediately stopped all further desire to cough on that occasion. One piece of work after another was done upon this nostril until a free and clear air-passage was obtained. During the progress of this work I once left a pledget of cotton, impregnated with benzoinol pressed tightly like a wedge between the middle turbinated and the septum, to be worn as an antiseptic dressing until her return next day. Next day she had a very rapid heart-beat, shallow respiration, febrile movement, intense headache, and the tale of a sleepless night made resonant with uninterrupted coughing. A spray with cocaine and removal of the pledget stopped all of the symptoms. Thereafter the treatment was completed without further use of cotton tampons. I felt certain that the cough could altogether and permanently be cured by removing the obstructions and relieving the pressure upon the sensitive nerves. Months of leisurely treatment of this nostril only abated, but did not remove, the cough. It was not until a portion of the left turbinated and a lingering exostosis were taken away that the cough finally gradually disappeared. The other symptoms disappeared with it almost as perfectly as one could expect. The symptoms more in detail were as follows:

1. There was complaint of pain and throbbing at the inner canthus of the right eye and along that side of the nose, frequent congestion of the eyes, lachrymation and blurring of the vision.

2. There was a singular swelling on the right side of the neck which was large enough to be noticed by the patient and easily felt and seen by the physician. It occupied a place corresponding to the anterior border of the sternocleidomastoid muscle over the region of the middle cervical ganglion.

3. The patient often claimed to have a pain below the right ear just above this swelling.

4. Vertical headaches had been constantly recurring since 1893 and were becoming more severe and of a throbbing character.

5. There was dizziness on rising every morning, accompanied by nausea. The dizziness was like the sensation of tipping backwards. The nausea was a very persistent thing, recurred after each meal and had been a symptom for six years. It was relieved by the operations on the right nostril and finally disappeared altogether as the treatment advanced.

6. Rotation of the eyes had often been accompanied by positive

pain. This was relieved soon after the operative work had been done on the right nostril.

7. The patient had no recollection of ever having breathed freely through the right nostril before the turbinates were removed.

8. The unbalanced state of nerves concerned is well brought out by the symptoms which followed cauterization of a sensitive area on the posterior aspect of the septum (September 8, 1894) after nearly all the above-mentioned symptoms had either been gotten rid of or greatly modified. The cauterized surface remained quiescent under the cocain until evening, when inveterate coughing set in and kept up all night long. Pain was referred to the lower part of the spine. It gave pain to walk. There was a strong tendency to throw the head back as far as it would go. There was short, rapid respiration; tachycardia; cough at the end of deep inspiration; pain in the left axilla when lying on the left side; severe headaches; sleeplessness; pain and lachrymation in both eyes, but no nausea. All these symptoms had been in evidence when in hospital or during the interval since then, but they now returned for a final splutter on the occasion of cauterizing this spot on the septum. They all soon disappeared.

For four years following this event the patient's condition gradually improved until I could say to her that she was virtually free from all trouble. The eyes alone performed their function with somewhat less than normal comfort, thanks no doubt to ill-timed tenotomies done for purely functional disturbances in the face of unremoved pathological conditions capable of exciting them in eyes with faulty refraction incompletely corrected.

The last chapter of this history was opened in October, 1898, when treatment of the patient's left upper lateral incisor was begun by anesthetizing the gum with Thayer's anesthetic solution, lancing it, drilling off the root, and applying a dark-colored solution to destroy the inflamed periosteum. The tooth had previously been filled with soft filling, had ached, had required the destruction of the pulp and had been followed by periostitis. That tooth has since been extracted. In November, 1898, the second right upper bicuspid was aching, was capped for filling, continued to ache, had cement removed and pulp killed, and became the seat of periostitis. The tissues were anesthetized, lanced, the root drilled and treated with Thayer's solution. Six weeks later it again became sore to touch and throbbed. The crown was accidentally broken off by eating candy. The tooth was then extracted, but a stump was left behind which continued tender. The stump was finally removed, but the socket was still tender. Dead black bone was next removed from the alveolus above it (June, 1899), after which pain slowly subsided.

Shortly after the early treatment of the right upper second bicuspid had been done, the corresponding left upper bicuspid began to ache, throb, and feel sore. Periostitis was diagnosed. It was a dead tooth whose pulp had been killed two years before. The same treatment by Thayer's solution was used as for its fellow of the opposite side. It quieted down for a while, but subsequently became troublesome enough to demand extraction. At the first attempt the crown was broken off, but the root also was finally got out. In February, 1899, the first left lower molar became sore and inflammation was declared; the pulp was killed, the tooth was drilled, and Thayer's solution applied. Soreness continued until June. Whilst the second right upper bicuspid was being treated the patient came to me with a return of the cough, which had almost entirely disappeared for nearly two years. She also complained of her eyes again, having pain in them, profuse lachrymation, and congestion. I again made careful tests and found no reason for changing the spectacles which I had previously prescribed for her, being her full corection for hyperopia and hyperopic astigmatism. But I found erratic action of the muscles denoting marked muscular imbalance, notably strong esophoria for distance and slight exophoria for near. The excess of both these disturbances gradually went away after removal of the black pieces of dead bone from the alveolus.

The above history covers a period of thirteen years and is as accurately given as I have been able to get it from her. The description of work done for her by her dentists and others was given me by the patient from keen and minute recollection.

Given a certain quality of nerve tissue, it may possibly be admitted at the outset that even slight wedging of the teeth continued for a period of nearly two years was easily capable of causing more than merely pain; in other words, of setting up a permanent irritability of the nerves distributed to these teeth. But a pre-existing faulty condition of nose might easily in itself be blameworthy, needing nothing more than this interference with the teeth to arouse a hitherto latent pathological condition. Wherever the blame may lie, the fact is that we ultimately found here a pathological condition not only in the nose, but also in the antrum and teeth primarily treated. It is noteworthy that thirteen years after treatment was begun on these teeth necrosed and blackened portions of bone were removed from that portion of the alveolus of the right side of the superior maxilla from which the second bicuspid emerged, remote only one tooth from the incisor first extracted to give drainage from the antrum. The reflexes most in evidence here are, in the order of their occurrence, as follows:

1. Imbalance of the external ocular muscles with possible disturbance of the ciliary muscles in accommodation.
2. Nausea, mornings and after eating.
3. Quickened respiration and tachycardia.
4. Cough.
5. *Throbbing* pain at the right side of the nose near the inner canthus of the eye; also *throbbing* headaches, conjunctivitis, and increased lachrymation—all due to vaso-motor disturbance.

Other phenomena of pain in the case are probably not reflex, at least not directly so. Pain in the eyes might be due to congestion from disturbed vaso-motor control of the circulation, or it might be due to effort spent in overcoming inharmonious action of the external ocular muscles, and thus in either case indirectly due to the reflex producing the discord. The pain beneath the right ear might be dependent on disturbed nutrition involved in the swelling noted over the edge of the sternocleidomastoid in the region of the middle cervical ganglion of the sympathetic, due indirectly as before to vaso-motor disturbance from the common origin. But it is safer to regard pain as outside the scope of reflex phenomena. As Zarniko has pointed out, the true character of a reflex can always be checked by its centrifugal quality resulting in change—motion, secretion, or nutrition. But it is necessary to bear in mind that not all phenomena having a centrifugal quality are reflex neuroses. All other means of explaining them must first be excluded. The sensory areas of suspected reflex should show signs of pathological character and should as a rule be capable of excitation by various stimuli to reproduce the reflex phenomena in question and, failing this, to produce equivalent or accompanying reflexes.

Keeping these safeguards in mind we note at once the obstruction found in the nose occluding the right naris and pressing on the septum; the exostosis from the septum, the irregular condition of the teeth at the outset, the necrosis of the alveolus found later, and the intervening inflammation of the antrum. Just what pathological place dental literature ascribes to irregularities of the teeth I do not know, but I should think they might easily have a pathological quality. Again, I think we may fairly state that all pathological conditions are more sensitive to slight disturbances than are normal conditions. Hence the appearance of extraordinary pain in the initial treatment of these teeth. Hence also the ready involvement of the eye muscles in asthenopic anomalies which led to the tenotomies, because compound hyperopic astigmatism was already present. Next note that the equivalent and accompanying reflexes present are additional support of the claim of these neuroses to be true reflexes. I refer in the former ("equivalent") to the tachycardia and nausea, involving the sympathetic element of the vagus, and in the latter ("accompanying") to dizziness, throbbing headaches, throbbing pain at right side of nose, increased lachrymation, involving as they do vasomotor disturbance of the areas implicated.

The two reflexes to which alone I shall give detailed consideration here are the cough and the anomalies of the ocular muscles.

It is necessary to keep in mind how the branches of the fifth nerve are distributed over the areas affected. First, the anterior dental branch of the second division distributed to the incisors of the superior maxilla, has direct association by means of the ganglion of Bochdalek within the antrum, through a small branch of the superior nasal nerves with Meckel's ganglion; and this ganglion is connected by its pharyngeal branch with the pharyngeal plexus. It is probable, as Schadewolf has pointed out, that it is through this pharyngeal branch that the sensation is referred to the larynx when the posterior part of the nose or nasopharynx is irritated. Hence the coughing and croup occurring with adenoids and nasopharyngeal catarrh. But the cough in the case of our patient was not due to this nerve; it was excited by irritation of the pathological areas in the right nostril; it was quieted by cocain applied to those areas and it was entirely got rid of by removal of the turbinates and treatment of the supersensitive spots. It was therefore due to a sensation carried along the affected branches of the fifth nerve through Meckel's ganglion to the medulla, there transferred to that portion of the medulla in which the central filaments of the vagus terminated, especially those filaments which take their origin in the laryngeal mucous membrane under the name of the superior laryngeal. The sensation did not travel back thence to the larynx over a sensory tract, but, continuing from its new location in the vagus

J. L. LITTLE, M.D.

center, traveled upward to the sentient center in the cerebrum, where it was interpreted as if it proceeded from the larynx—like some tickling sensation. This intelligence called for action. Automatically and promptly, a motor impulse started back from the cerebral center, traveled downwards to and through the phrenic and other spinal nerves controlling the muscular act of coughing, and the reflex act was completed.

The nasal branch of the first, or ophthalmic, division of the fifth, is distributed to limited areas of the anterior and upper end of the septum and to that portion of the anterior end of the middle turbinate which would press upon it if the two were in contact, so that pressure here is apt to bring about disturbance of other areas to which the same nerve is supplied. Hence occasional involvement of the caruncle and conjunctiva as well as the lachrymal gland. Even the pupil and accommodation may be disturbed through those branches of the ophthalmic given off to the lenticular ganglion and the ciliary nerves. All these disturbances were present in this patient as well as that pathological condition just named—contact between the anterior end of the middle turbinate and the septum. It is fair, therefore, to suspect the irritated condition of this nerve as the partial, if not the efficient, cause of the lachrymation, the conjunctivitis, and even the blurring from disturbed accommodation, the ciliary nerves sharing in the disturbance. If this were the method it would not be reflex but associated disturbance. It is, however, likely that a coexisting reflex does take place under the circumstances. The sensation in that case proceeds first to the center in the medulla along the ophthalmic nerve, thence to the sentient center in the cerebrum, is there perceived as a mixed sensation, coming partly from the nose and partly from the other areas affected, and is interpreted as calling for a centrifugal influence to be sent back along the sympathetic channels of the same nerve to the lenticular ganglion, ciliary nerves, and lachrymal gland.

It remains finally to consider briefly that series of disturbances presented here and treated by glasses and tenotomies, known as asthenopic anomalies of the ocular muscles. We are dealing with difficult problems, but this is the most difficult of all and most important, for upon its proper management depends to a great degree the patient's well-being and comfort in the perception of all those sensations which come to her through her eyes. It is simply the problem of single vision with two eyes; in other words, of comfortable fusion of two images into one perception.

The patient had from the beginning a double error of refraction known as compound hyperopic astigmatism, a condition capable of causing disturbance of vision and asthenopic symptom even in those not otherwise inclined to be nervous. In the majority of cases it is efficient treatment to fully correct the refractive error; others need tonics as well, exercises for the eye muscles, general exercises, and improvement of the general health. But in the case we are studying we have pathological conditions in two other distinct areas, the teeth supplied by the anterior dental and the nose supplied by the nasal branch of the ophthalmic and the other nasal nerves from Meckel's ganglion. By so much the more is the difficulty increased of dealing successfully with her disturbances of visual function. These conditions were all present when the tenotomies were being performed. They should have been recognized, dealt with, and eliminated from the problem before resorting to tenotomies. The oculist must see more than the eyes of his patient. He must interrogate all possible causative agencies, either personally or by aid of the family physician. His own educated insight must be derived from previous experience in general practice. Yet when light has been sought from all sources, these asthenopic problems sometimes remain unsolved and discomforts remain after all details have been attended to. Such cases belong usually to the highly neurasthenic type, or at least have some fault in nerve quality that cannot be brought up to the standard of comfortable and efficient function. It is in this field that oculists find their most difficult, most interesting, and most useful work. The degree of comfort finally procured for this patient in the exercise of a single vision, whilst not perfect, is yet both gratifying and encouraging in spite of untoward interferences.

253 Gates Avenue.

(Read February 8, 1900. Printed in *Items of Interest,* XXII., 2, February, 1900.)

DISCUSSION.

Dr. Cox: These cases of reflex coughs are not as well appreciated as they should be. In many cases where a harassing cough has persisted nothing has been done except to administer antispasmodic expectorants, often to the detriment of the patient's digestion and general health, without giving relief. Not all coughs are of reflex origin, yet they are of sufficient frequency to demand more attention than is given them. In any case of cough in which no palpable lesion is found in the throat or chest, or in other words a "useless" cough, it is often a difficult problem to find the true cause, for a reflex cough can arise from almost any part of the human body. It is not confined to the respiratory tract; the auditory meatus is a not uncommon source of reflex cough, and Dr. Agnew of Philadelphia reported an instance reflex cough due to trouble in the rectum; the cough promptly disappeared after the rectal lesion was cured.

The nose and nasopharynx are common sources of reflex cough, for such patients are usually of neurotic type, and have a lack of control and a tendency to exaggeration of the reflexes.

A cough to be useful should have for its object the removal of something in or below the larynx. If the mechanism of cough is brought about for any other purpose it is useless. A normal cough is really a reflex, but a normal one having for its purpose the removal of some mucus or anything of that sort that should be gotten rid of within the larynx or above the larynx. The abnormal or useless reflex, giving rise to a useless cough would be one in which a cough occurred when there was nothing to be removed, and with the larynx, trachea, and bronchial tubes in normal condition, but irritation existed somewhere else.

Sneezing is a normal reflex in the nose, for the removal of some foreign body from the nose, but cough is an unnatural and useless reflex when the irritation is in the nose. In examining such cases if nothing is visible to the eye it is well to go over the whole nasal tract with a probe and if a sensitive area is found and irritation of that area produces a cough and does it repeatedly, that is fairly conclusive evidence that that is the cause of the cough. If the application of cocaine to that area diminishes that sensibility so you cannot excite the reflex, you can almost certainly say that is the source of the reflex.

It is easy to overlook the cause. In one case many examinations were made before I found a very minute papilloma behind the posterior pillar in the lateral wall of the pharynx, a locality which is very apt to be overlooked. When I pushed the posterior pillar forward it lay flat against the pillar and was scarcely observed, but when I did that the patient coughed and brought it into view. The removal of that papilloma cured the cough which had been distressing the patient for several years.

Dr. Henry stated that a similar case had come under his observation. A woman with a characteristic reflex condition of the vocal organs, because of which she lost her voice entirely. She had been a singer in a church and part of her income was from that source. For two years she was under treatment for laryngeal disease, as it was supposed, when she went to another physician, who instead of treating her throat treated her reproductive organs, and her throat soon got well and she went back to her church and her singing.

Sarcoma of the Nasal Mucous Membrane; History; Slides.

Algernon T. Bristow, A.B., M.D.

Toward the end of August, 1899, Mr. A. P. was referred to me by Dr. Mann of Jericho. The patient suffered from a large tumor of the anterior nares; it filled the entire nasal space on the left side and the nostril was very much bulged outward. There was total inability to respire on that side and the growth was accompanied by frequent bleeding. In appearance it was gelatinous, very vascular, and bled easily on touch.

He gave the following history: In August, 1898, he began to be troubled with frequent bleedings of the nose, at first every day or two and later increased in frequency until there was two or three in a day. After a time he was sent by his physician to the New York Polyclinic, and stayed there for three months. What was done I do not know. The patient says they did nothing for him, but gave him some medicine the dose of which was at no time increased or changed; he may easily be mistaken. Two or three pieces of the growth were snared off, submitted to microscopic examination, and showed the students, but he did not know what the diagnosis was. After being in the hospital three months he became discouraged and was sent to me.

The day after his entering the hospital I had him etherized and putting him in Rose's position to prevent the blood from entering the larynx, very rapidly curetted out the entire mass—entirely by the sense of touch, because the bleeding was furious. I inserted my finger and wherever I could feel any redundant tissue at all I used the curette again; then packed the nares with iodoform gauze. He left the hospital two or three days afterwards.

Immediately after the operation I went away on my vacation. When my assistant, Dr. Wallace, removed the gauze he discovered a small portion of the growth still left on the septum and wanted to remove it, but the man declined and went back to Rockville Center.

He came into my service again in November of the same year at the Long Island College Hospital. He had a growth now on the septum alone; the growth which I had removed from the inferior turbinated together with that bone had not recurred. Another curettage was at once performed and all the growth removed down to the bare white cartilage. I did a little more thorough operation than at first; there was not as much of the growth to be removed and I curetted everything by sight. I stopped the hemorrhage very well by suprarenal extract in gauze, and the man left the hospital a day or two afterward.

Dr. Dudley had seen him previously and was present at both operations. My own clinical diagnosis was that of a myxosarcoma. I sent a specimen with the whole tumor I had curetted to Dr. Murray, and he sent me back word it was probably a melanotic sarcoma.

The subsequent history of the case up to date is as follows: I requested him to visit Dr. Dudley regularly in order that the nasal cavity might be kept under constant observation, and Dr. Dudley can report on this phase of the case better than I can. I saw the patient two days ago and the septum is entirely clear, as far as I was able to discover. There was a small recurrence evidently in the fragments of the inferior turbinated and some tissue that closely resembled polypoid tissue, which Dr. Dudley immediately snared off and gave to Dr. Van Cott for subsequent examination. A portion of a small growth which Dr. Dudley snared off subsequent to the second operation was referred to Dr. Wright, and he also made an examination but reported the growth non-malignant.

Now it is necessary for the surgeon to know how absolutely he can depend upon a diagnosis of small round-celled growth in tissues of this sort. No surgeon wishes to subject a man to a grave operation unless he is perfectly certain of the diagnosis, and the earlier this diagnosis can be made the better the prognosis.

It has occurred to me in connection with this debatable ground of pathology that it would be wise sometimes to have a consultation of pathologists just as we have of physicians of surgeons in doubtful cases, and then certainly we could go to work in many cases with a clearer conscience and a braver heart than we do at present.

234 Clinton Street.

DISCUSSION.

Dr. Reynolds stated that while working in the Polyclinic he had seen this case. The man was treated by Dr. Myer for a number of weeks and he strongly urged to have the operation done at the beginning, and told that the result would be dangerous if not done. Four pieces were snared out, an examination made, and the report received was that it was non-malignant. The patient refused to be operated on and left the hospital.

Dr. Dudley had seen this case several times and said the result was surprisingly good considering the lesions which once existed. There was a marked horizontal deviation of the nasal septum to the man's right. The affected cavity has been the left, and when clear would give four times more respiratory space than the right nostril. The deviation extends posteriorly three-quarters of the length of the posterior nasal septum; the vomer is quite perpendicular. This cavity, doing most of the respiration, became dried by the air current and that inducing a scaly or scabby condition of the mucous surface from the dried mucus, would naturally favor picking and rubbing at the nasal cavity. This has been the man's custom in order to clear his nose, and is the probable source of local irritation.

Two weeks after the second operation the nasal septum on the left side was still denuded of mucous membrane and there were no appearances of new growths left upon the septum. Two weeks later the nasal mucous membrane quite covered the site of the second operation. Near the junction of the triangular cartilage of the septum with the perpendicular plate of the ethmoid was a small mass of extremely soft tissue, bleeding slightly and appearing at the time macroscopically as a mass of redundant granulation tissue. This was snared off and given to Dr. Wright for examination. On the anterior edge of middle turbinated on the left side was a rather gelatinous mass, more like a polypus, although it was pedunculated; this also was snared off and I gave it to Dr. Wright. Three days ago another examination showed the septum absolutely clear and a healthy mucous membrane over the site of the operation. The inferior turbinated had lost by operative measures its anterior quarter and there was no recurrence certainly on the site of the primary operation. The middle turbinated was very much enlarged and seemed to be undergoing some degenerative change. The tissue was quite translucent in appearance, very much like polypoid matter would be. A fragment twice as large as a pea was snared and given to Dr. Van Cott. The hemorrhage from that was fairly free from polypoid tissue. The inferior turbinate looked much more like malignant growth than the middle turbinate: it was enlarged and was rather a purple or venous color, and besides being hypertrophied in the nasal cavity itself there was a considerable projection of the inferior turbinate into the nasopharynx. The posterior tip of the inferior turbinate rested against the Eustachian prominence, which is further back than one is accustomed to see hypertrophies of the turbinate. The man's general condition has improved and so far as I could discover there is no glandular involvement.

Dr. Jonathan Wright had examined the specimen which was presented by Dr. Dudley and found it to be an edematous nasal polypus having a little more round cell infiltration than is usual in these cases, although that varies tremendously. In an ordinary edematous polypus the amount of round-cell infiltration varies not only from the inflammatory conditions of the nasal fossa, but apparently sometimes without any such condition in the nasal fossa. Dr. Murray has sent me lately a section from a specimen which he first examined and in some parts it is entirely different from the one I examined. The edematous tissue was present and down beneath it was tissue indistinguishable from round-cell sarcoma. The tissue that looks like sarcoma is comparatively limited. The round cells are polygonal in shape from the pressure of the growth, but they have not invaded the edematous tissue above it and around it as you would expect a round-cell growth to do.

Clinically a round-cell sarcoma does not act that way, especially in the nose. A round-cell sarcoma of the nose when it does start usually starts in for business. It bleeds and grows rapidly, and inside of a few months the patient dies. That is especially the case when it is of a melanotic character as this was. This had some diffusion of blood pigment in the tissue Dr. Murray sent me, although not present in the piece I had. This case now I believe has lived and is alive and well twenty months after the inception of the disease; he has been operated on numerous times and is better than when he started in; so that in itself it seems to me is proof positive that the microscope in this case has failed to make a diagnosis, as it frequently does with round-cell sarcoma. It is a fact, I think, that it is impossible for the very best microscopists always to make a positive diagnosis in cases of sarcoma of any kind, but especially the round-cell variety.

The only other possible diagnosis would be syphilis, because syphilis can resemble anything under the sun. Whether he had iodide of potash given him in the Polyclinic is not known. It was not given by either Dr. Bristow or Dr. Wright.

The clinical history shows very clearly that this case was one of those in which the microscope failed, as it so often does, but the clinical history which Dr. Bristow gave and the hemorrhages the man had without operation or any traumatism are very suspicious of sarcoma. The hemorrhages from a case of small round-cell sarcoma of the nose are, as a rule, very much more copious than from those cases which are syphilitic. Very frequently it is impossible clinically to tell these cases from a rapid growing gumma. Dr. Cox has recently had one in which the iodide cleared up the diagnosis, and I have seen a good many in which the only difference in the clinical history was the severity of the hemorrhage. As for the microscopic appearances, I quite agree with Dr. Murray, that in the deeper layers in the specimen he sent me it had every appearance of what the books picture as round-cell sarcoma with the exception, as I say, of the lack of rapid growth which we usually see in such specimens.

Dr. Van Cott: This is certainly a very remarkable case. I have seen sections from different masses of this growth. The first that I saw was distinctly an alveolar sarcoma, and not only that, but the cells of the tissues contained pigment, so one had the histology of a pigmented alveolar sarcoma, which belongs to the most malignant class of growths. Other sections, however, show a combination of tissues; there are certain areas in which angioma is distinctly present; there are other areas again in which there are many blood-vessels which are cut in cross section, vessels which certainly are not characteristic of sarcoma, in which there is a very remarkable growth of small round cells limited to the vascular areas; that is to say, evidently the genesis of these small round cells is from the outer coat of the vessel. So in those areas in which these occurrences are found, one would say angiosarcoma. Then there are other areas of tissue in which there is distinct edema present and perhaps more edematous tissue than anything else.

I am a little at variance with Dr. Wright on the question of the infiltration of this edematous tissue with the small round cells. Sections are found in which the small round cells will be seen to invade the edematous tissue, and not only that, but in which there are areas of small round cells in the edematous tissue which are quite distinct and away from the general mass of small round cells.

The fact of the non-recurrence of this growth, the fact that some twenty months, as the doctor says, have elapsed without any fatality, is certainly remarkable. In one case examined the whole mass was a small round-cell sarcoma, and he died in six weeks in spite of the fact that Dr. Wunderlich did a very thorough and radical operation, curetting out all the bony substance he dared to. The tumor recurred and the patient died inside of six weeks. I will confess frankly that I am utterly at a loss to understand why this man has not presented a recurrence more rapidly.

I saw the patient the other day at Dr. Dudley's office. The piece snared from the middle turbinated bone has been examined; in it there is no evidence of anything but edematous tissue and no small round cells at all; so here we have nothing which could be regarded as evidence of any malignancy whatever. Assuming that there be malignant tissue there, it was not present in the mass last snared. So far as the mere microscopy of the case goes, the tumor seems to have started out as melanotic pigmented sarcoma and then became angiosarcoma, and finally it is nothing at all but edematous tissue with some evidence of inflammation and a few isolated follicles.

But the end is not yet. I remember a case some years ago in which a mass of tissue was removed by a surgeon of this town from the skin of a negress. The diagnosis of the pathologist in that case was small round-cell sarcoma, with a fatal prognosis. That was the text on the part of that surgeon to preach many sermons on the use of the microscope, the so-called court of last resort, and it was stated at the time that it was granulation tissue, possibly syphilitic, possibly not. By rare fortune, three years after the examination of that particular mass, I heard from the case; the woman was dying from multiple growths all over her body, which turned out to be multiple sarcoma.

I would say in reply to the general objection of Dr. Wright on the fact that this growth has not become fatal as yet, is simply this: that there are exceptions to every rule; as he says, no microscopist is always going to make a diagnosis. Indeed, there are many times when a microscopist makes a failure. But certain it is that not all these malignant growths show the same tendency to rapid recurrence and rapid fatality. I have recently read a thesis by a gentleman in Wurtzburg who took pains to collate the statistics regarding cancer of the lip. He showed that periods varying from three to nine years might be found before the recurrence of the growth which had been operated on. So, as I look at the question now, we are confronted with two things: in the first place, we meet a growth in which we have certainly definite microscopic findings showing great malignancy, and secondly we have failed to get the recurrence we should have had, assuming such malignancy; the conclusion seems to be that the microscope is not always a certain factor in such cases. Yet the time is a little too soon to say what will occur in this most interesting case.

Dr. Murray presented a series of specimens under the microscope from the first and second curettings, and also two sections from Dr. Dudley's last removal by a snare. He believes the specimen is a sarcoma.

Dr. Jonathan Wright stated that he had seen a number of similar cases of growths from the throat and nose, and in some the most competent microscopists have made a diagnosis of malignant sarcomata but in which the subsequent clinical history did not warrant it. It seems to me that in these growths, especially the malignant growths, that it is not fair for the surgeon to ask the microscopist to do any more than to describe what he finds under the microscope. The microscopist if he does more must be not only a microscopist but a clinician; he must be not only a clinician, but in such a case as this one, accustomed to observe carefully and see large numbers of these cases of neoplasms of the upper air-passages. The microscopic appearances are not criteria of vital processes in the tissues themselves, and it seems to me that it is sometimes a little presumption on the part of the microscopist and a little ignorance on the part of the clinician which leads to misunderstandings, so that the clinician undervalues and scorns the diagnosis from the microscopist, while the microscopist alone or the pathologist alone is a little too positive in regard to the vital processes which have produced this tissue which he sees under his microscope.

Dr. Van Cott heartily concurred with the statement of Dr. Wright's, and said he had adopted the plan of reporting findings and not saying much about what should be done, and then leave it for the clinician to determine what he is going to do.

There is a prevalent theory among men who do not do much work with the microscope, that it is only necessary to submit a mass of tissue to the microscopist and then receive an opinion from him. A microscopist is just as much entitled to the clinical history of a case as the clinician is entitled to the pathological findings, and it ought to be admitted and ought to be recognized by those who chose to submit their material for information, that they are very much enhancing the capacity of the pathologist to render a report by giving him all the data, clinically and otherwise, possible.

Dr. Warbasse observed that much is yet to be learned concerning the relative malignancy of sarcomata. Koenig of Berlin has recently secured good results in medullary sarcomata of bone by merely curetting out the diseased area instead of amputating or resecting, as has been done by many.

Dr. Warbasse presented at a recent meeting of the Brooklyn Surgical Society a specimen of this very type of sarcoma: a tumor springing from the upper end of the tibia treated by amputation of the lower third of the thigh. This is precisely the type of tumor which in the presence of the most recent knowledge has been completely eradicated by Koenig by the curette and chisel, preserving not only the limb, but the bone and the joint as well; and so I say that not all is known concerning this subject of the malignancy of the sarcomata.

The examination of specimens is a matter of importance. It is not fair to submit a specimen to a pathologist, mounted and stained, and ask his judgment of that specimen. A pathologist to do himself justice in estimating the character of tissue should have the handling of it himself, and it is a most unsatisfactory thing for a man to have submitted to him specimens which have been stained and mounted by methods which he is not familiar with or cognizant of, which are different from the methods which he himself uses. A man feels very much more in touch with a specimen which has gone through his own hands and which he has mounted himself.

Another matter is the value of the microscopic findings in examining tissue of this sort. Personally I feel it is a matter of the greatest importance, but a matter of still more importance is that the clinician who deals with these growths should be conversant with the pathology of such tissues and should be in a position to appreciate what the pathologist has to say to him; in other words, the terms of the pathologist should be capable of interpretation by the surgeon. The microscope should be the final court of judgment, and if the naked eye declares for one judgment and the microscope for the other, is it not a fact that we are in duty bound to respect the judgment of the microscope, because it represents the finest insight into the anatomy of the tissue. However, there is such a thing as the clinician depending too much upon the finer methods of diagnosis. A physician who has no stethoscope becomes very skilled in the use of the blunt faculties in making his diagnoses. Before the watch was invented men were very well drilled in estimating the time of the day, but the finer methods of diagnosis, if you please, have tended to blunt the natural capabilities of men in this direction. I have heard Professor Koenig, to whom I have alluded, say with reference to tuberculosis, that the surgeon should know tuberculosis when he sees it and it should not be necessary that he see demonstrated microscopically the tubercle bacillus; he should be sufficiently familiar with the naked-eye appearances of tuberculous tissue to recognize it when he sees it. In his homely way he says, "When I see a ground-hog's hole I know that it is a ground-hog's hole, without seeing the ground-hog sit up on the dirt heap; and so of the tuberculous types; a man should know it without having to resort to the finer aids to diagnosis." This holds good in judging of malignant tumors especially. In the diagnosis of those tumors which appear easily to the naked eye, such as the epitheliomata of the lip and tongue, the surgeon should be sufficiently skilled to recognize them without having to resort to the aid of the microscope. When it comes to such matters the microscopic examination is often made hastily and defectively for that reason, and so there should go hand in hand with the microscope the ability to recognize by the blunt senses the evidences of disease particularly with regard to malignant tumors.

Dr. de Forest: It does not strike me that the series of examinations made upon this particular man's case do not hang together. If the case had been a carcinoma of the breast removed by an extensive operation, it would be fair to suppose that tumor was permanently removed, and if at the end of a few weeks or months some one had examined the scar it would not be expected that malignant growth would be found. Still later, if for some reason the primary scar had been removed and a better scar had been formed, there would be no malignant growth discovered. We expect when any thorough surgical operation has been done upon any malignant growth, that if the growth is entirely removed the disease is removed and will not recur.

In this case of Dr. Bristow's a thorough curetting down to the smooth cartilage and bone was first performed. The examination made of the tissue showed the structure of sarcoma, or angiosarcoma, or melanotic sarcoma; all different types of the same disease, according to the portion of tissue examined. After so thorough an operation, it is not surprising that most, if not all, of that malignant growth was thoroughly removed.

This slide of tissue removed at a later date shows nothing malignant. Why should it? The growth has been removed, and we now have a slight infiltration of small round cells probably due to inflammation, but nothing that would suggest a sarcoma.

To speak for a moment from the point of view of the pathologist, I would fully endorse what has been said by Dr. Warbasse regarding the necessity of the pathologist having the preparation of the specimen. If we merely recall the time when cultures were first taken for diphtheria we can well remember how in the hands of some practitioners the swab was rubbed over the throat of a suspected patient and then the culture medium was curefully stirred up, broken into small pieces resembling hash, and sent to the Department of Health for examination. It seemed to be the belief at the beginning of the use of cultures that it was necessary to stir the thing up well in order to give the germ a chance to take root. Physicians now have become so used to the use of cultures that such treatment is becoming more and more a rarity, though I dare say it does happen even yet.

In preparing specimens for the examination of the pathologist the same frequency of examination does not occur. The general practitioner does not have the occasion as often as he does of taking cultures for diphtheria. The consequence is that specimens sent to the pathologist for examination are oftentimes allowed to stand in water until they are macerated, or put in some fluid which does not harden them well; in general, a great many things may happen to specimens which later on absolutely forbid an accurate examination; that is a factor in the case which should be borne in mind in holding the pathologist responsible for an accurate diagnosis.

It has been stated that the exact malignancy of sarcomata varies and is still undetermined. Still less do we know the real cause of such new growths. If parasitic, as is rendered more and more probable as evidence accumulates, may it not be possible that the tight packing of iodoform gauze in a closed cavity in the present case may have been an important factor in causing a stoppage of growth and in securing the good result which exists at the present time?

The fact, moreover, that edematous mucous membrane or simple polypi developed later in the same locality, as the sarcoma has nothing to do with the case. The primary sections are those of a well-marked sarcoma.

Dr. Bristow: I think that all intelligent and well-read surgeons realize the difficulties which surround the pathologist in regard to the estimation of tumors which may be said to occupy this border line. We do realize the difficulties which surround them and we by no means wish to throw any discredit on their work. The question that I had in my mind was this: whether it was a possibility in cases like this to come to a positive opinion or not.

The specimen which Dr. Dudley removed the other day from the man's nose was entirely different from the original mass I curetted. That mass did not look like a polypus at all. It was a nasty, bad-smelling fungous mass which bled at touch; whereas this latter one was translucent tissue exactly resembling polypoid tissue. My own belief with regard to this case is that it will ultimately prove itself to be malignant.

Now here is again an interesting question which may be introduced at this time: whether the same growth may not have in different people different degrees of malignancy? We know that is true of other bacteriological disease. Take for instance tuberculosis. Every one knows the terrific ravages of tuberculosis which occur in virgin soil. So with other bacteriological diseases; every one knows the ravages in virgin soils of measles and smallpox. The inhabitants of the Hebrides were stricken with measles, a disease not unusually of a high mortality, but the mortality there was something frightful. So in the case of the American Indians when smallpox was introduced into this country by the whites from Europe, whole tribes were swept away, a mortality unheard of in the history of smallpox. So one may ask the question whether malignant growths perhaps do not have the same peculiarities; whether there is not in certain people a resistance which does not occur in others. Certainly carcinomata do not all have the same malignancy. Why cannot the same thing occur in regard to sarcoma. It is certainly strange that these sarcoma which Dr. Warbasse mentioned should have assumed a more benign type than formerly. We all know the deadly nature of the giant-cell sarcoma in bone. Now other parasitic diseases change their type, and it may be possible that such a disease as this we are mentioning may also change its type. In the realm of malignant neoplasms much remains to be learned, unlearned, or discovered.

Quiet Iritis; Patient; History.

John W. Ingalls, A.B., M.D.

Eighteen years ago this patient was struck in the left eye with a piece of steel, making a lacerating wound through the cornea and involving the iris. It healed up within a week or so and he returned to his work and had no further trouble until about early in 1898. Then while shaking a mat he got some dust into his eye and a short time after he had more or less inflammation which practically destroyed what little sight he had.

The other eye remained in good condition until about January, 1, 1900. He then noticed that from day to day the sight became dim, but there was absolutely no pain and none of the characteristic symptoms of sympathetic iritis.

On examination of his right eye I find there has been an inflammation of the iris, but no pain whatever. Such a condition, of course, sometimes occurs, but is rather rare. The name given to it sometimes is "quiet iritis;" Dr. Mathewson, I believe, calls it "sneak iritis," and that is a very good term for it, because such an attack comes on in a very insidious manner; the only symptom complained of is the impairment of vision, but there is no pain or any of the characteristic symptoms of the ordinary iritis. In addition to that I find there are many opacities in the vitreous and in the retina. They cannot be made out without the ophthalmoscope, but the condition of the iris can be readily seen.

444 Lafayette Avenue.

Orbital Cellulitis; Patient; History.

Heber N. Hoople, A.B., M.B., M.D.

When first seen on the 19th of January the right eye of this patient was much swollen and the lids bulged out, the conjunctiva being red and edematous and the ocular conjunctivitis being much swollen, so that the cornea seemed set in a ring-like frame; the cornea was perfectly clear, uninflamed, and not tender. There was no tenderness of the lids at all; there was pain only when the hand was placed upon the lids and the ball of the eye was pushed inwards. A good deal of secretion existed, and a certain amount of pus lay on the mucous membrane of the lid; but there was not enough of it to make it suspicious of infection. Inquiry confirmed this opinion. The only cause that could be assigned by the patient for the trouble was that he had been thrown out of a wagon four months before, on Labor Day, while drunk. He struck on the right side of the face so that those portions of the malar and temporal bones that enter into the formation of the orbit were injured. The skin was broken through, but this abrasion of the face healed promptly and gave him no trouble until the cellulitis, which occurred four months afterward. The diagnosis of orbital cellulitis with primary periostitis was made. The pupil was dilated with atropine and upon examination I found a neuroretinitis of slight extent but which seemed urgent enough to call for active measures. Cathartics were given and anti-rheumatics, hot applications were made over the eye, it being then four days after the swelling had begun. After five days, the neuroretinitis continuing, it was thought advisable to enter the orbit, and a long blade was pushed into the orbit well back into the orbit well back into the cellular tissue. No pus was found, but a drainage-tube was put in and left in, and the opening kept free for several days. The hot applications were continued and the swelling ultimately began to subside; the neuroretinitis has been gradually disappearing. At the present time there is considerable conjunctivitis but no special tenderness of the orbital brim.

These cases frequently go on to inflammation of the cellular tissue in the orbit, with involvement of the meninges and the brain, and destruction of the patient.

353 Gates Avenue.

THE

BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.

ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

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VOL. XIV. No. 11.
WHOLE No. 155.

BROOKLYN, N. Y., NOVEMBER, 1900.

Single copies 25 cents
$2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

TORTICOLLIS.

BY WALTER C. WOOD, M.D.

Read before the Brooklyn Society for Neurology.

In approaching this subject one is forcibly reminded of the oft-quoted saying of Benj. Franklin, *viz.,* "A well educated man should know something of everything and everything of something." To interpret correctly and with certainty any given case of torticollis one must know something of pediatrics, of ophthalmology, of orthopedics, of internal medicine, of surgical anatomy, and of neurology, while to treat a case successfully one must be well versed in that department of our art where the case belongs. I think we do not get a comprehensive view of the subject unless we consider torticollis as a symptom or sequela and not a definite disease. We know enough about it to appreciate our ignorance concerning many of its phases, and to regret the futility of our past efforts to cure some of these patients.

These cases are variously classified as congenital or acquired, as essential or symptomatic, as anterior or posterior, as structural or spasmodic, etc., but any arbitrary classification is at present faulty on account of our uncertainty concerning the various etiological factors. These patients, however, as they come to us clinically, naturally group themselves into certain classes, and although not a scientific method, I will ask you to consider them in in this way.

I. Torticollis of Infancy.—Here the location is evidently the sternomastoid muscle, which is plainly shortened, and there are no secondary contractions. It is not uncommon for infants to present a swelling of the body of this muscle, which has been known as a hematoma of the sternomastoid and has long been considered as the usual cause of the shortening. However, it has been shown by Whitman from observations at the Ruptured and Crippled Hospital, that such is not the rule. A large number of cases are noted where the tumor was not followed by shortening and conversely, many cases of shortened muscle give no history of a preceding tumor. A. Pearce Gould of London states that about 20 per cent. of cases of hematoma are followed by shortening.

It is evident from section of these swellings that they are traumatic in origin. In the earlier stages there is an effusion of blood, while later there is an increase of fibrous tissue with fragments of muscle undergoing degeneration. The sheath is untorn. It is simply the process of repair carried to an exaggerated extent, which excess is characteristic of the lack of rest and of infancy. This tendency in infancy is evidenced by the large amount of callus repairing a femur fractured at birth. While it is possible that the muscular rupture may be intra-uterine, it is not proven, and, on the contrary, in the large majority of cases it is plainly a lesion due to a violent parturition. The cases in infancy not preceded by a hematoma may also be due to muscle rupture where the reparative process has not been excessive enough to cause a tumor. It seems to me that this view is strengthened by the fact that the muscle seemed to be tender in these infants, but I do not know that a section has been made. Jordan Lloyd and others consider them traumatic.

Simple means of treatment in these cases before the stage of secondary contraction, or fixed habit prove successful. It is unnecessary to open the hematoma. Certainly some of them disappear spontaneously without contraction following. An ointment of pot. iodide in lanoline (as advised by Jacobi) used with gentle massage, is useful. Additional rest on a pillow is a precaution. When shortening is present, with or without a preceding hematoma, massage and passive motion with care in holding the child so as to cause tension on the contracted side, have been efficient in cases that I have observed, yet I would not hesitate to use a retention collar at night in a stubborn case. A true spastic wry-neck in an infant I have not seen, but cases with a plain head lesion due to forceps are reported, showing a cortical origin to the irritation.

II. Contractured Cases in Children.—These cases come to us with a history of several years' duration, having been observed in infancy, and are the typical cases of anterior torticollis referred to in surgical literature. Here, in addition to the sternomastoid primarily shortened, there are secondary changes. The deep muscles, the scaleni and the posterior group that have not been stretched, have not developed their full length. The cervical spine is curved, both the vertebræ and the intravertebral disks having grown faster on the convex than on the concave side; and compensatory curves have developed in the dorsal and lumbar region. The fascia and ligaments have partaken in the process. A facial asymmetry follows in long-continued cases. A deviation in the line of the nose, a depression of the lower cheek, an obliquity of the orbicular slits, a drawing of the corner of the mouth, and a general smallness of one side of the face, all result from mechanical differences in muscular tension, in blood-supply, in loss of function, and in pressure. The asymmetry does not prove a cortical origin, because it gradually becomes lessened after correction.

These cases are amenable to a combination of surgical, mechanical and calisthenic measures, and a cure depends upon a correct appreciation of the amount of attention to be bestowed upon each plan of treatment in a given instance. In my judgment all three are necessary in a varying degree for most of them, and where I have tried to treat a case with less than the three I have failed. It is well to confine surgical interference to the sternomastoid, the platysma and underlying fascia. It is not necessary to cut the posterior muscles in this type of cases. Where it seems necessary to sever only the sternal attachment, the subcutaneous method has proven very satisfactory to me. Where, however, the clavicular portion as well needs to be divided, it is safer and more satisfactory to resort to a free open section. Immediately after the section and while the patient is still under the anesthetic, all the deeper structures should be thoroughly stretched until they cease to exert a force to pull the head back in the old position. This takes at least fifteen minutes of careful manipulation and must be done gradually to avoid danger. Renier reports the following case: In a patient 16 years of age, with a structural anterior torticollis, he divided the sternomastoid and attempted to forcibly correct the distortion. The patient ceased breathing and death ensued on the table, due, in his opinion, to interference of the cerebral circulation from compression or stretching of the large vessels in the neck. After the manipulation I have restrained the head in a slightly over-corrected position with a plaster-of-Paris cast. A month is the average time advised for retention. After that time it seems to me that corrective gymnastics are preferable to the various mechanical devices pictured for prolonged retention. Now the cases are similar to lateral curvature patients with a flexible spine, where suitable exercises are much to be preferred to braces. In some half-dozen cases this general plan of treatment has given me much satisfaction. Non-spastic cases only must be selected for this method.

III. Muscular Torticollis.—Cervical muscular rheumatism causes a wry-neck of a pronounced nature. The onset is acute, the pain severe and some general constitutional disturbance is present with usually a history of exposure. The tenderness affects several muscles, and the head may be almost perfectly immovable. The salicylates, with local use of heat, a Turkish bath, careful massage with or without stimulating liniment, mustard or hot poultices followed by the application of a thick layer of cotton or wool will cure the various degrees of this type within a few days.

IV. Glandular Torticollis.—In wry-neck due to inflamed cervical glands, the head is held in the position that will best relieve muscular tension on the inflamed glands. Here the muscles on the concave side are relaxed instead of contracted, and the indurated swellings can be palpated. There is usually a temperature and a previous source of infection has existed in the throat, nose, ear, or general system. Although the surgical treatment of inflamed cervical glands in children is not by any means universally necessary, where the process is acute enough to cause a wry-neck, a suppurative inflammation is usually arising and early drainage is advisable to limit the process and lessen the consequent disfigurement.

V. Osseous Torticollis.—Here the type is a spasmodic contraction, especially of the posterior groups of muscles, and is due to the reflex irritation from caries of the cervical vertebræ. These cases have frequently been mistaken for the posterior variety of spasmodic torticollis due to nervous origin. Yet it is very important to make the distinction, as muscles have been cut, and in one reported case at least, instant death has resulted from the attempt to forcibly straighten a case of cervical caries where the diagnosis was at fault. This variety can usually be recognized by the greater rigidity of both sets of posterior muscles, by the greater pain, especially at night, by the dysphagia, by the attitude of the patient and the care with which he avoids all jarring of the head. At any attempt to make passive motion, all the muscles of the neck spring into a state of tension, and movement in all directions is equally resisted. Even before the stage when angulation of the spine or a protuberance develops, a change from the normal curve of the spinous process line is evident on close observation. Thickening of the posterior wall of the pharynx, or the formation of a retropharyngeal abscess or an unevenness in the surface of the bodies of the vertebræ as determined by palpating the posterior pharyngeal wall confirm the diagnosis. Thus while these cases are so similar on superficial inspection, they show many points of difference when studied with the attention a case of torticollis so richly deserves.

It is now generally accepted by orthopedists that cases of cervical caries, when acute, should be treated for some months on a frame cot in the recumbent position, with head extension applied by a weight, and only after the pain has ceased should any brace, collar, jury-mast or chin-cup that permits an upright position be applied.

It may be noted that the three preceding varieties, the muscular, the glandular, and the osseous, can be classed together as inflammatory torticollis.

VI. Cases Due to Ocular Defects.—The eye lesion is said to be an astigmatism or a muscular deficiency, and after correction by prisms or tenotomy of the eye muscles, the torticollis gradually but completely disappears. When there is a marked difference in the power of the eyes, the accommodation is assisted by turning the head, and after a time a permanent wry-neck results. Hobby of Iowa has recently reported a case of ocular torticollis as follows: "Finding that any forcible correction was attended with diplopia, I was led to the discovery that paresis of the left inferior rectus existed, and a subsequent tenotomy of the superior rectus led to a complete cure." Although it is a structural rather than a spasmodic shortening of the neck muscles, relapses are certain to follow the accepted method of treatment on account of the influence of the uncorrected ocular cause. There is some difference of opinion as to the frequency of this type of the disease, but it is certainly important in any case, in the absence of an evident cause, to ascertain the condition of the eyes before deciding on a plan of treatment.

VII. Cases Due to Occupation.—It is unquestionably true that a spasmodic torticollis of moderate severity occurs in neurasthenic or hysterical patients apparently as the result of occupation. Factory girls employed as weavers or spinners or at any work requiring constant attention and turning of the head, sewing-machine operators, clerks or students employing strained postures, furnish examples of this type of cases. They seem to be similar to other professional neuroses, such as writer's cramp. The onset is usually sudden and may follow sudden emotion, as grief or fright, or a period of overwork. It appears to the writer, who is not familiar with neural pathology, that a practical working hypothesis for the present is to consider these milder spasmodic cases of sudden onset as functional rather than as due to a degeneration or structural nerve lesion. While we cannot clearly separate them as yet from the more severe types to be considered later, it is true that the prognosis and treatment applicable to one class is not sufficient for the other. These cases can be greatly improved and quite generally cured by prolonged rest in bed combined with sedative and later tonic medication. Bromide and chloral are probably superior to opium. Gelsemium, advised by Weir Mitchell, has gained some reputation in this connection. Cases cured by conium are also reported. Massage has its advocates, and galvanism is used. Two cases have recently been published where the only treatment was the use of a light spring clamp causing gentle but continuous pressure on the muscles of the neck. Mechanical means of restraining the head, such as plaster casts and braces, are unbearable to some of these nervous patients and probably do more harm than good. These cases can be cured by the complete rest procured by muscle and nerve section combined, but such a procedure is probably not necessary.

VIII. Severe Spastic Cases.—These may be gradual in onset, are progressive in the severity of the spasms and in the number of muscles involved, many have choreic movements associated with the tonic or clonic spasms, and there may be an entire absence of hysterical symptoms. I have seen several cases who were robust and phlegmatic individuals. While the pathology is still a problem to be investigated by the neurologist and microscopist, the most rational theory at present is to consider them cortical in origin. Indeed, several recent writers state that such is a fact; yet the evidence put forward as proof is very meager. There is usually no gross organic lesion. Dana reports a single autopsy showing a chronic leptomeningitis of the vertex and some degeneration of the cortical cells beneath. I have seen no other positive statements of autopsies. We may consider it a disorder of the cortical centers for rotation of the head and acknowledge that we do not know the nature of the disorder.

The muscles involved are usually the sternomastoid, trapezius, splenius capitis, complexus, trachelomastoid and the obliquus capitis inferior. While the muscles in a state of spasm may be all on the same side of the neck, it is more common to find that the sternomastoid on one side and the posterior rotators on the other are the ones affected. The head is thus rotated by the combined action of both, and tilted back by the stronger posterior group. At times both sternomastoids or both posterior groups are the ones at fault.

These severe spastic cases are exceedingly difficult to treat. By many they are regarded as incurable. Medical means relieve them but little. Gibney states that mechanical restraint is a failure. Resection of the spinal accessory nerve is usually disappointing. Muscle section has in the past been too conservative to be efficient.

Russel, in *Brain,* 1897, reports his investigation of the cervical and thoracic nerve roots in relation to wry-neck. He states, and the general literature on the subject entirely substantiates him, that there is abundant evidence to show that in a large proportion of cases of wry-neck, surgical measures, *viz.,* division of muscle and excision of a portion of the spinal accessory nerve cannot be expected to give a permanently good result, because in a majority of cases muscles beyond the control of this nerve take place in the spasm. Also, because the sternomastoid has a double nerve-supply, *viz.,* the spinal accessory and the posterior branches of certain cervical nerve roots, even in those cases in which the spasm is limited to that muscle, it is scarcely reasonable to suppose that the section of only one of its paths of connection with the central nervous system would do more than lessen the spasm. Therefore the only reasonable prospect of relief is the division of the posterior branches of the upper cervical nerve-roots, in addition to the older procedure, as devised by Gardner of Melbourne and Keen of Philadelphia. He then goes on to determine by experiments on monkeys exactly what nerve-roots should be divided in various positions of the head, and concludes that one or all of the internal branches of the posterior trunks of the first four cervical nerves should be cut. Lateral inclination of the head by which the shoulders and side of the head and face are approximated indicate that the first and second nerves should receive attention. But when the chief movement of the head is when the occiput is pulled backward the third and fourth are the most important.

The operation described by Keen is briefly as follows: He makes an incision three inches long from one-half inch below the lobe of the ear to the middle line of the neck posteriorly. He then divides the trapezius transversely and below it locates the occipitalis major nerve as it escapes from the complexus one-half inch below the line of incision. He divides the complexus transversely at a level with the nerve and follows the nerve down to its origin from the posterior trunk of the second cervical, when he excises it. He then locates the suboccipital where it passes over the arch of the atlas and excises it. One inch below the second is the third internal branch, which is also to be divided. It is probably advisable to operate on the sternomastoid muscle and its spinal accessory nerve at a preceding operation.

A report from Kocher's clinic seems to show that a section of muscle alone, if sufficiently radical, is able to cure these cases. He resects a portion of the upper end of the sternomastoid and also of the entire posterior group. There are twelve cases reported with seven cured, two improved, and three not improved. In the later cases it is stated that the operation was not as radical as in the successful ones.

It seems to be proven by experiments and to be indicated by the partial operations done so far, that paralysis of the head will not follow even if both posterior groups and both sternomastoid muscles are removed. The anterior and posterior recti groups seem to be able to control the head even without the aid of the other deeper muscles. Walton believes that in the future the most intractable cases will be treated by both nerve and muscle section on both sides, done in several stages.

The prognosis of these major operations involves three points: Risk to patient's life. So far there is but one death reported, and that was due to erysipelas. There has not been much shock. If care is used to divide in two or more stages rather than to unduly prolong a single operation, it is probably safe. Ill effects: There will be no paralysis, and the scars are but a small penalty to pay for relief from the distressing symptoms of a spasmodic torticollis. As to cure: In the present transition stage, it is probably better to wait for more statistics before deciding this important question. It would seem as if an improvement could be promised to all and a cure should follow if one is able to repeat the operative attacks to the extent indicated by the case. Kocher's statistics are the best I have found. Surely less than 50 per cent. of these cases have been cured in the past. I think that as the operations become more radical, the reports will be more favorable.

It remains for the neurologist to establish a more exact pathology and to indicate where and when, if ever, a cortical operation is advisable.

DISCUSSION.

Dr. Barber, in opening the discussion, said that Dr. Wood had fully discussed the subject and covered the ground admirably, the last named conditions being of most interest to him. Though his experience was limited, he had seen a few cases operated on without great improvement; the cases always being neurotic, for a time improved and then relapsed; perhaps not so bad as at first. The operation as performed by Keen is new, and he has had no experience with it as yet, but would prefer doing it as advised—in stages—it being one of great detail and not easy, hunting for the nerves and then operating on them. In every case there are a number of things to consider and study, especially on the neurological side.

Dr. Haynes said that in addition to the conditions causing torticollis mentioned by Dr. Wood, he had seen it in two instances where it had been the initial symptom of cerebral meningitis—in one case of ordinary tubercular meningitis, and in the other following a few days after an otitis, mastoid disease and beginning meningitis. His most frequent ones had been hysterical, which were most readily relieved by suggestion and hypnotism, and he had seen it in cases where the attacks of torticollis were accompanied by echolalia and coprolalia, really a form of "tic" seen in predisposed neuropaths. He recalled the case of a lady whom Dr. Barber had also seen who, after any emotional excitement, like the marriage of her son, would have an attack of throwing her neck awry, and at the same time emitting foul and obscene words, especially in public places, and much to the embarrassment of her friends. She usually recovered after a few weeks' treatment.

Dr. Brush had seen the condition well marked in a syphilitic who was also hysterical, whose symptoms and condition varied with each examination, and the more he was examined and the greater sympathy he received, but who was much relieved under cold baths and moral suasion treatment.

Dr. Wood, in closing the discussion, said that he had premised by saying that the condition was only a symptom; that there were surgical, nervous, and orthopedic cases of various types, diagnosis and treatment. He was particularly interested in the pathology of the spastic cases, the mild ones being now regarded as functional and the severe organic.

TUBERCULAR PERITONITIS.

BY GEORGE MC NAUGHTON, M.D.

Read before the Brooklyn Gynecological Society, February 2, 1900.

This subject is selected, not because there are any new ideas as to its pathology or treatment, but because tuberculosis is always an interesting subject, and this particular location of it has not been especially considered in this organization; a disease not infrequently encountered in the practice of the abdominal surgeon; one in which the early diagnosis is not easy; and, finally, because the discussion by all may suggest new facts or theories which will tend to amplify individual knowledge of the disease, thereby assisting in directing proper treatment for the relief or cure of the person so affected.

Tuberculosis is defined as an infectious disease, due to the presence in the system of the bacillus tuberculosis. It is so prevalent that it has been stated that fully one-seventh of mankind die of it.

The bacillus may enter the body with the inspired air, the food, and by direct inoculation. Because of most direct exposure the respiratory tract is most frequently attacked. When tuberculosis is introduced with the food the intestinal tract becomes the seat of the diseased process. Direct inoculation is rare. Heredity, despite the arguments to the contrary, plays an important part in the development of this disease: a fact that is recognized by all clinicians.

A personal observation in this direction may be of interest: A child, the offspring of apparently healthy parents, with the exception of psoriasis in the person of the mother; child at birth apparently healthy, became ill a few days subsequently, and died on the twenty-first day. Autopsy disclosed abundant tubercular deposits in the lungs and numerous cavities present.

A child born one year previous died when a few months old, of tubercular meningitis. The mother became pregnant a few months after the death of the second child, and she was at once put upon duotal in 15 grain doses; child is now one year old, with no evident affection except pharyngeal adenoids. It is reasonable to suppose that the second child was born tubercular.

Symptoms of tuberculosis, like other pathological processes, vary with the parts prominently affected. The disease in its essential characteristics is the same.

In 119 autopsies by Holt, upon tubercular subjects, mostly under 3 years of age, the peritoneum was involved in 8.5 per cent., while the lungs were involved in 99 per cent. As the age increases to young middle life the peritoneum is more likely to become infected.

Frequency.—Williams states that genital tuberculosis is found in one in every twelve celiotomies for inflammatory diseases. If this be a fact a great number must be overlooked. In an article recently published in the *American Journal of Obstetrics,* Dr. A. E. Gallent states that of 100 consecutive celiotomies in the New York Cancer Hospital, there were found only four cases of tubercular peritonitis, or about half the proportionate number as stated by Williams.

Tuberculosis of the peritoneum is found as: (1) Acute miliary tuberculosis. (2) Chronic tuberculosis. (3) Chronic fibroid tuberculosis.

The disease may be primary and local, or secondary to a general tuberculosis. In women the process usually extends from the Fallopian tubes. This, however, is questioned by Williams, who believes that genital tuberculosis is usually secondary to tuberculous peritonitis.

In operations for tubo-ovarian diseases, I have frequently noticed in the tubes or in the peritoneal covering of the tubes, small granular masses very resisting to the touch and not easily seen. There seems to be but one explanation for their presence, and that is upon the theory that they are tubercular, which if true will account for many of the diseased adnexa that have been so little understood. The tube itself, often constricted and occasionally obliterated, makes the tube appear as if made up of several small tumors; sometimes the contents quite soft and fluctuating, sometimes harder and almost cheesy in appearance.

These cases are usually regarded as examples of pyosalpinx where the more fluid portions have been absorbed, leaving a pulpy, cheesy mass behind. It is sometimes very difficult to account for these conditions unless upon the theory of tuberculosis.

I understand that there is great difficulty in isolating the tubercular bacilli found in the peritoneum. This particular difficulty may account for the present ignorance.

Occasionally an interstitial salpingitis is found where the tube appears to contain fluid, yet upon section very little or none is found.

These cannot always be accounted for by the usually accepted theory of gonorrheal origin, because they are found in women who presumably have not been exposed to the gonococcus of Neisser.

It is very likely that the process is sometimes arrested, or runs an acute course and subsides; then we have the remains of the disease present in such form as to interfere with the normal function of the organs affected. This is a matter of great scientific as well as practical interest, and it is hoped that the question may sometime be explained.

When tuberculosis invades the peritoneum, the peculiarities of which, as described by Treves, are: Its large surface area and its great power of absorption, its limited resistance to septic organisms and their products, the rapidity with which it heals, the varying degree of vulnerability in different parts, and its great sensitiveness (*British Medical Journal,* February and March, 1894), we more naturally expect a different set of manifestations and symptoms which might be almost regarded as decisive, yet this is not true. This large, sensitive, weakly-resisting membrane may be largely involved in a tubercular process and give very few symptoms; for it is a fact that some of the afflicted patients appear robust, complain only of slight pain, temperature not much disturbed, going about attending to their various duties in a reasonably comfortable state of mind and body; in fact, a case was seen a few weeks ago in a young girl 17 years old, a patient of Dr. D. F. Lucas. She probably would not have consulted the doctor had not her abdomen increased in size to an extent to cause remarks among her companions. This patient was seen and examined several times, each time presenting peculiar signs and symptoms which would lead one to come to a different conclusion.

The very diversity of symptoms finally aided in making the correct diagnosis of tubercular peritonitis. On abdominal section the whole of this sensitive membrane was found covered and studded with small tubercular nodules; so far as could be determined there was not a square inch uninvolved. This diagnosis was confirmed bacteriologically. The cavity contained a considerable amount of fluid heavier and of a deeper color than the ordinary ascitic fluid. Some of this fluid was saved for examination, but no report was received concerning it. This girl left the hospital in a fairly good condition. This case serves as an example of acute miliary tuberculosis of the peritoneum. There were no signs indicating the presence of tubercular deposits elsewhere. She is a member of a tubercular family. These small nodules were hard and the tissues immediately surrounding them were evidently a little firmer than normal. Passing the finger ever so lightly over them would cause them to bleed. The deposit was most profuse over the edge of the broad ligaments and the Fallopian tubes. There were no cheesy deposits; therefore, nothing was removed. The cavity was dried out and a saline solution injected and left. In this respect perhaps there was a mistake made, as some believe that the process is arrested, partly at least, by the relief of fluid pressure. Some operators remove, if possible, that portion of the peritoneum which seems most affected.

I can see no reason for doing this, in such a case as the one referred to. It is impossible to know how long the disease had been present in this case; but probably not very long. This may be regarded as an unusual opportunity to inspect this disease at the height of the acute stage. Neither can it be said that this, if left alone, would not have subsided and left the peritoneum with the usual adhesions, but its function not materially impaired.

The relation of another case may serve to illustrate another phase of the disease: Female (Mrs. H.), married, 45 years old, five children, no miscarriages; seen first on April 30, 1899: A mass of considerable size in the right inguinal region, movable, and felt like a lipoma, not causing trouble. Patient stated that she had lost flesh rapidly and progressively for the past two years. During this time had suffered more or less pain through the pelvis; increased debility.

At this time I did not feel like urging an operation, but suspected malignant trouble; her general appearance suggested such a condition, besides the presence of an abdominal tumor. I asked her to return for another examination, which she did in October, She reported progressive loss of weight and increased weakness, and asked that something be done for the relief of pelvic tenesmus and pain which extended down her thighs. The peritoneal cavity contained considerable fluid. The intestines were agglutinated by many bands of fibrous tissue in the form of small threads. The Fallopian tubes were enlarged and contained serous fluid; fimbriated extremity attached to the ovary. The uterus was fixed and occupied a higher than normal plane; behind was a mass of considerable size, containing semi-fluid material which was drawn out by means of McNaughton's ejector, without in the least soiling the peritoneal cavity. There remained a quantity of cheesy material, which undoubtedly was of tubercular origin, the sac containing this was dissected out, drained through Douglas' cul-de-sac, and the abdominal wound closed. This patient developed a fecal fistula not unusual in these cases; finally the fistula healed and she is making satisfactory progress toward recovery.

This case represented another type, or perhaps another stage, of this disease. Unquestionably the operation was a proper one, for many of these cases improve very decidedly after celiotomy, and live comfortably and usefully for many years.

Still another case, which was of particular interest inasmuch as the fluid found in the peritoneal cavity was white, resembling milk in color. The patient, married, mother of several children, had suffered abdominal pain for many months, and during this time had lost bodily weight; some fever, at times reaching 104° F. Physical examination showed distended belly; on percussion, dull in places; fluctuation distinct, fluid contents easily changing position from one side of the body to the other; in this could be felt a body which seemed to be floating about. On abdominal section, a large amount of fluid, as described, came from the peritoneal cavity, the walls of which did not easily collapse as soon as the fluid was withdrawn, but remained distended like a shell. The intestines were found agglutinated in one grand mass and seemed to be attached by either end, and floating in the peritoneal fluid. This patient died a few weeks after the operation, but I was not invited to the autopsy; specimen not saved, yet there can be little doubt of this being a case of tubercular peritonitis.

I have had considerable experience in these cases and might relate many other histories, but think that sufficient reference has already been made to elicit good discussion, which will be of greater profit.

DISCUSSION.

Dr. Butler: In regard to the origin of the germ and the inflammation in tubercular peritonitis, I would like to report a case I operated on in 1894. A colored woman of 32 or 34, who gave a history of severe pain extending pretty well over the abdomen toward the umbilicus, with marked tenderness in the right iliac fossa and also some tenderness in the left iliac fossa; temperature, 102° or 103°, and pulse pretty well up. I decided it was a case of appendicitis and operated on her in the afternoon. Dr. Van Cott helped me at the operation. I found the intestines adherent everywhere, as in the case which Dr. McNaughton reported, but no fluid, except a very little down in the cul-de-sac; there were spread all over the intestinal tract, the ileum and jejunum these little miliary tubercles. The thought came to me from whence did this process start, and on going very carefully over the case I concluded it came from the appendix, as it was the most inflamed organ in the cavity. There was a mass of adhesions and three or four angulations of the gut near the appendix, causing complete obstruction of the bowel; and there were large masses or thick layers of fibrinous material over the entire gut. I removed the appendix, left ovary and tube, and the entire great omentum, closed the wound with some drainage in the lower angle, and after a few days of severe illness the patient made a good recovery. She was operated on about a year afterward by Dr. Fowler for hernia, where my drainage was applied. That was before I used the lap stitch, as I now do in all celiotomies. Dr. Fowler found no evidence of tubercular peritonitis when he operated; she is in good condition now.

Dr. E. A. Day: I was physician at the Colored Orphan Asylum in my early practice, and a patient there, a boy about 6 years of age, grew sick; in fact, had been sick for a long time. He finally became so sick he was not able to go about. Examination showed the abdomen to be very hard. He complained of some pain in the abdomen, but not such a great deal. He grew sicker, and finally died. I performed an autopsy and removed the entire contents of the abdomen and found them so thoroughly agglutinated together and so much fibrinous and other material there that the contents would support themselves—just a solid mass of material that would support itself if placed upon any object. I sent the mass down to Dr. Van Cott at the college to present to the students. I know it was a tubercular process that produced that condition. I offer this simply to show how greatly the contents of the abdomen may be involved and yet how slight may be the symptoms produced.

Dr. Polak: The three cases that Dr. McNaughton has reported I think very well exemplify the three types that are found clinically; that is, the type with an ascites—the one in which the peritoneum is studded with numerous miliary tubercles, and the type in which there are lymph masses. These lymph masses are extremely interesting, because they do not usually occur singly, but there are many masses of the exudate distributed through the abdomen. On abdominal examination in a well-marked case you will find tumors as large as the fist and simply made up of agglutinated guts with this exudate, this cheesy material; in one case I have in mind there were four or five, to my distinct recollection.

I was surprised to hear the doctor state that in removing the miliary tubercle the site bled. It was my impression from seeing these cases that there was rather an anemia around the site; that they were very tenacious and very difficult to remove and the site very unlikely to bleed.

Another statement of the doctor's I must take issue with; I refer to his statement in regard to the weak resisting powers of the peritoneum. I think that hardly any cavity is insulted so frequently as the peritoneum, and at the same time it has an extreme resisting power, not only to the tubercle bacillus but to the streptococcus, staphylococcus, colon bacillus and all the other germs, and it is certainly a most tolerant membrane, notwithstanding the anatomist to the contrary. The diagnosis in these cases is extremely interesting. In the first place, as to the fact that the majority of the women who have tubercular peritonitis have borne children or have had miscarriages. That is very well brought out in the series of cases of Osler and the cases reported by Kelly and Williams; the average age of these patients was in white women 29 and in colored women a couple of years younger. The diagnosis is not easy, because we are led to believe from reading about tuberculosis that these patients have a past history that is pathognomonic of this sort of thing, but the doctor in his first case has hown how that is falsified, and it is not only so in that case but in many others. The patient is often apparently robust, but complains of continual abdominal pain. This pain is not characteristic pelvic pain, in the understanding that we have of it. It has hardly any relation to the comenstrual premenstrual or postmenstrual period; it is there all the time and it is increased on walking, and while there is some exacerbation at the menstrual period, it is not nearly so marked as in the disease of the adnexa or of the uterus itself. These patients again, if you follow them carefully, always have some rise of temperature. One case that I was fortunate enough to follow for some time for suspected tuberculosis of the abdomen, gave no evidence except constant pain, and repeated pelvic examination gave negative results. That patient every afternoon did have a temperature of 99° to $99^{2}/_{5}$°. They will have attacks apparently malarial, with a little chilliness and rise in temperature, and they do get a little hectic and then they do begin to lose flesh. There has been one other symptom very constant in every case of tubercular peritonitis that I have ever seen, and that is the frequent desire to urinate and the painful micturition. You would not suppose that had anything to do with tubercular peritonitis, but it is coincident, and I find other men have made this same observation. It has certainly been constant in the cases I have seen.

There is no question in regard to operation in these cases that every case that appears to give a good history of tuberculosis should have an exploratory section, and it is a question how far and how much you should do; whether it is simply the letting off of the fluid—and sometimes there is no fluid there—and what curative virtue the section has. They used to leave considerable iodoform in the abdomen and claimed that that produced the cures. Whether it did, or whether it was the action of the air, is a question. One French observer I remember made several sections through the vagina for tubercular peritonitis, and the results were not as satisfactory as they were when the abdomen was opened.

Dr. Maddren: There are one or two thoughts that occur to me in connection with the doctor's paper and the discussion. I suspect that a good many cases of peritoneal tuberculosis originate in tubercular disease in or about the appendix, but that does not answer the question as to where the tuberculosis of the appendix originates.

In making exploratory celiotomies I have several times found the abdominal cavity and its contents studded with little tubercles that from gross appearances varied very little from tubercular deposits. It was afterwards proven that they were secondary deposits or infiltrations of either sarcoma or carcinoma. I think that we should not depend on the naked eye or the gross appearances, but that we should have made a histological and if possible bacteriological examination of these cases. If there is a certain amount of hydroperitoneum with the secondary deposits or infiltrations it is still more difficult to distinguish by the naked eye appearances.

Dr. McNaughton: Answering Dr. Polak's criticism, I would say that this description of the peritoneum was taken from Treves. If any one does not believe this membrane weakly resisting to infection let him cease to take aseptic precautions in his operating and he will soon have sufficient proof.

The question of this occurring in women who have had children, I presume Dr. Polak brought up as an explanation of the way in which the infection is introduced. The more recent examination of this subject shows that males are as frequently affected as females, so that argument will hardly hold.

Appendicitis I think is a frequent condition in tubercular subjects. I have seen a larger proportion of appendicitis in tubercular subjects than I have in others. That is, however, a personal experience.

Now, the difficulty in making a diagnosis even when you have made your section, I think is sometimes great, because a good many of these conditions resemble malignant disease, and I have seen the abdominal wound closed, the operator believing the case to be inoperable because of extensive malignant disease; this patient has lived for several years, and is at the present time a wage-earner. I suppose that it is a case of tubercular peritonitis. It is not an easy matter, even on inspection, to determine the exact nature of these growths, and one ought to be very careful in making a prognosis. A few weeks ago I asked a bacteriologist what he would do in the way of diagnosis, and he said, "I would use the tuberculin test in preference to abdominal section." I replied I would rather have my abdomen opened than to make use of that test. It occurred to me that the tuberculin test would not apply, because most of these cases of tubercular peritonitis have nodules elsewhere and you would get the result of your test showing the presence of tuberculosis without identifying it as peritoneal tuberculosis.

In regard to the treatment of these cases, we all know and have seen cases of probable tubercular pleuritis, in which there is a circumscribed collection of fluid which is drawn off by means of an aspirator, no air or light enters the pleural cavity, and these cases go on sometimes for years without further trouble. I do not know why that should not apply to the peritoneum also. It seems to me that fact throws out the mere presence of light and air as putting a stop to the process. There is no way to determine what would have been the future of the first case mentioned in my papers if there had been no interference; possibly the diseases might have subsided and left the usual signs of a tubercular process.

Now, so far as a child being born with tuberculosis, the one mentioned is the youngest patient I ever lost with tuberculosis, and I doubt very much if that child developed cavities in so few days. I should be inclined to think the child was born tubercular, although, as I stated, there were no signs of tuberculosis in either parent.

TUBAL GESTATION.

BY EDWARD D. FERRIS, M.D.,
Assistant Surgeon Norwegian Hospital.

Read before the Brooklyn Surgical Society.

Tubal gestation is one of the gravest conditions which may threaten the life of a female, inasmuch as the symptoms in the beginning, in the majority of cases, are slight, she having no knowledge that anything abnormal exists until taken with sharp pain in abdomen, followed by all the symptoms of great loss of blood, which may be so severe as to put the patient's life in peril.

Brettauer reports 34 cases in six years, 4 of which were seen before complications or alarming symptoms had appeared.

The etiology is obscure and speculative. It is useless for me to-night to go into the many theories which have been advanced.

J. Bland Sutton, in his treaties on "Surgical Diseases of the Ovaries and Fallopian Tubes," 1891, says: "The fact that pregnancy occurs in the tube after a long period of sterility in women who have borne children has given color to the suggestion that the patients have suffered from desquamative salpingitis with the destruction of the proper ciliated epithelium will account for the occurrence of tubal gestation, inasmuch as it puts the mucous lining of the tube into a condition exactly similar to that of the uterus after menstruation."

Sutton and Giles, in "Manual of Diseases of Women," 1897, say: "After a careful series of investigations on an abundant supply of material, teaches us that a healthy Fallopian tube is more likely to become gravid than one which has been inflamed."

There has been much written as to whether the uterus or Fallopian tube is the normal seat of impregnation.

Lawson Tait asserts that the uterus alone is the seat of normal conception; that as soon as the ovum is affected by the spermatozoa it adheres to the mucous surface of the uterus; that the function of the ciliated lining of the Fallopian tube is to prevent spermatozoa entering them and to facilitate the progress of the ovum into the proper nest; that the plications and crypts of the mucous membrane lodge and retain the ovum either till it is impregnated or till it dies or is discharged.

These patients usually present the following history: The patient may skip one or two menstrual periods and at a time varying before rupture there may be pain in the lower part of abdomen; but not severe enough for her to seek medical advice, with the pain there is a discharge of blood and shreds of decidua from her uterus.

This bleeding may keep up for some days, she now believes that something unusual is the matter and may consult a physician. These cases are sometimes diagnosed as threatened or incomplete abortions, the uterus is curetted with no benefit to patient and she is left to go on to rupture, and if this primary rupture be into the free peritoneal cavity there may take place a hemrhage sufficient to cause her death if prompt surgical treatment is not at hand.

This unhappy result might have been avoided if the discharged shreds from the uterus had been examined; if found to be chorionic villi the pregnancy is undoubtedly uterine.

After rupture and there are unmistakable symptoms of an active hemorrhage, celiotomy should be done at once, and the bleeding point secured.

Two of the three cases I report to-night occurred at the Norwegian Hospital in the service of Dr. Delatour.

Case I—E. G., aged 29, married seven years; family history negative; began to menstruate at 15, periods lasting three days, no pain. One year after marriage had living child. Two years after birth of first child she skipped a menstrual period, then flowed eight days; thought she had a miscarriage, but did not employ a physician. Has never had any inflammatory condition of pelvis. July 3, 1898, menstruation was not as much as usual. August 1st had slight pain in left side of abdomen; this was followed by a slight discharge of blood from her vagina; this bleeding and slight pain kept up until August 5th; while up about her household duties she was taken with sharp pain in her abdomen, fainted, then followed all the symptoms of severe loss of blood.

Condition on admission to hospital, August 5th: She was very pale, vomiting, pulse 120, weak, respirations 24; there were severe pain and tenderness in lower part of abdomen. The percussion note was flat. Vaginal examination: There was a sensitive mass in left side, about size of hen's egg.

One-half hour after admission her abdomen was opened; this was found to be full of blood. The left tube was enlarged, presenting a point of rupture about midway between fimbriated extremity and uterus. The mass was ligated and removed, the abdomen freed of blood and closed, the patient put to bed, pulse 135, coffee enema, and stimulation were given. The patient made an uneventful recovery the wound healing by first intention.

Case II.—M. M., age 32; family history negative; menstrual period began at 17; type regular; slight pain; been married eight years; has had four children, last child fourteen years ago; labors easy and normal; no miscarriages; has never had any pelvic trouble. November 5th, five days over her normal period, experienced severe pain in left side of abdomen, and began to flow; no fainting or collapse; she continued to have pain and to flow off and on for a month. December 6th a physician was called and diagnosed her condition incomplete abortion. Under anesthesia her uterus was curetted, followed by no improvement of symptoms. December 15th patient admitted to hospital. Condition on admission: A well-nourished woman, pulse 80, temperature 99°F., respirations 20. There was considerable pain in left inguinal region, tender to pressure, slight discharge of blood from vagina. On vaginal examination, a sensitive mass could be made out on left side. December 16th celiotomy was done; there was a slight amount of blood in the abdomen, her left tube was enlarged and ruptured close to the fimbriated extremity. The tube and ovary were removed, the abdomen freed from blood and the wound closed. Patient left the table with pulse 105 and in good general condition. She made an uneventful recovery; the wound healed by primary union.

Case III.—A. L., aged 34; family history negative; menstrual period began at 15, twenty-eight day type; has been married two and a half years; has had two children, last child nine months ago; no miscarriages; had gonorrhea five years ago. Three months after birth of last child began to menstruate regularly. April 25th had regular menstruation, lasting five days. June 1st had slight pain in left inguinal region; this was followed by a slight discharge of blood from her vagina. She went around doing her housework, the pain and bleeding continuing. On June 14th, while washing, felt a sharp, lancinating pain in left side of abdomen. She fainted. This occurred about 5 P.M. I saw this patient about 8 P.M. on the same day. She was in bed; her face showed an anxious expression, very pale, respirations 24, pulse 120, weak and thready.

There was considerable pain over abdomen, especially marked in epigastric and left inguinal regions. The percussion note over abdomen was flat, there was marked tenderness in left inguinal and hypogastric regions. On vaginal examination there was found a mass in left side, very sensitive to touch. A diagnosis of extra-uterine pregnancy with rupture was made. On account of the low condition of patient it was thought advisable not to move her, and to open her abdomen in her home, which was a tenement. The kitchen table was utilized for an operating-table, raised at one end, so as to give the patient the Trendelenburg position, and taking all antiseptic precautions possible, as to room and patient, her abdomen was opened. This was found full of blood. The left tube was enlarged, showing a point of rupture about midway between the fimbriated extremity and the uterus. The mass was ligated and removed, the abdomen cleared of blood, and the wound closed. The patient put to bed with pulse 140, and weak; the foot of the bed was raised, hot coffee enema given, and stimulation by "hypo." The wound closed by first intention, the patient made an uneventful recovery, and at the present time is in good health.

One of the cases I report, and also two others that came under my notice during the past year, were curetted for incomplete abortion.

The cases likely to be mistaken are those where there has been a rupture, with but little hemorrhage, no fainting or collapse, with a slight, continous discharge of blood from vagina. This error of diagnosis would probably not occur were the history and symptoms carefully gone into, together with a thorough pelvic examination, and if there be discharged shreds submit them to the microscopist.

DISCUSSION.

Dr. M. Figueira said that the subject of tubal pregnancy is a very wide and interesting one to the surgeon, and there are a good many points in connection with it upon which the paper did not touch.

He did not propose to allude to them all, but he would speak of a few that had come to his personal notice in his practice. The diagnosis of these cases is one of great importance, especially in connection with the diagnosis of appendicitis. When a tubal pregnancy takes place on the right side and the rupture occurs during the first or second month, as it often does, the case can be and has been mistaken for appendicitis. The speaker knew this to have occurred in the practice of one of the surgeons present and in his own practice in the hospital he had been called to see such a case. The speaker had been called at night, and was informed that the woman had been sent to the hospital with pain and vomiting and other symptoms referable to the right iliac region, and under treatment had improved; that this night the symptoms had returned and he had been sent for. On examination he found that she had a feeble pulse, pale face, and was vomiting. The abdomen was distended, and on the right side of the abdomen there was a tumor extending upward. The patient being an Italian and not speaking English, no satisfactory history could be secured and the symptoms being urgent, the speaker had opened the abdomen without making a diagnosis. The first thing that called his atention to the nature of the case was when he cut through the peritoneum, a tremendous gush of blood flooded everything. He put his finger in and removed several clots of blood, and by the feeling of things inside he saw that he had to do with a case of extra-uterine pregnancy. After trying to remove the contents of the sac the bleeding became so severe that he packed the wound with gauze, stopped the hemorrhage and sent the woman to bed. The next day she was doing pretty well; the gauze was left in place four days, the temperature being watched, and on the fourth day it was removed. In the course of two or three weeks the placenta and pieces of a fetus about three months old came away and she made a fine recovery.

Cases of tubal pregnancy are much more common than we sometimes suppose, and one is apt to come across them, and it is well to bear in mind cases of this kind. Another point in connection with these cases is the question as to what takes place in these cases when the rupture occurs, the fetus dies, and yet the woman recovers. All cases of tubal pregnancy that rupture are not fatal. In cases that rupture before the end of the first month, whether the fetus alone falls into the peritoneal cavity or the fetus and membranes are both displaced, if the patient recovers, that is, if the bleeding or sepsis does not carry her off, the peritoneum is able to take care of the fetus and membranes and absorption takes place, so after a time the entire thing is absorbed and passes away; but in those cases in which the fetus has advanced to two or three months or more, and the woman recovers, after death of fetus from rupture or other causes, then we have mummification of the fetus or calcification with formation of a hard tumor or lithopedion that remains in the peritoneal cavity and by pressure produces symptoms, or by obstruction interferes with the natural passages, either in vagina, rectum or bladder, and in time is apt to produce suppuration and give rise to abscesses that are sometimes very puzzling and very peculiar in the course that they follow.

There are other considerations in regard to the treatment of these cases, the management of them, the differential diagnosis from other conditions of the abdomen.

DR. A. T. BRISTOW said that there is one point he would like to make in regard to the differential diagnosis between appendicitis and pregnancy. He believed that in quite a large number of cases tubal pregnancy is mistaken for appendicitis; more particularly as in a great many of these cases of tubal pregnancy there is considerable elevation of temperature. He had seen a number of cases of tubal pregnancy in which the temperature was 101° and sometimes 102°, yet there was no suppurative process within the abdomen at all. The principal point he had depended on in these cases is this: in the tubal cases there is not a frank spasm of the right rectus muscle, and in the appendix cases there is.

He never saw the condition of spasm in a ruptured tubal pregnancy similar to that which is present in appendicitis. There is tenderness, to be sure, there is some resistance, a general resistance, in the abdominal wall, but it is totally different to the intense spasm of the rectus in appendicitis.

Dr. Chas. H. Goodrich said the point has been made as to the possibility of rupture of these sacs between the layers of the broad ligament or into a mass of adhesions, which limits the amount of hemorrhage in most cases for a time at least and sometimes saves the woman's life. He had seen two such cases during the past year and in both cases the cavity in which lay the fetus and placenta was thoroughly limited and thoroughly walled off from the general peritoneal cavity. In one of these cases the clots and placenta were removed from the cavity by a vaginal incision, which is claimed by many to have a definite advantage where the diagnosis can be made before rupture or where the sac has ruptured into a mass of adhesions or into the connective tissue of the broad ligament. There are many advantages, but perhaps one of the most striking is the advantage that if the fetus or placenta or both have begun to putrefy, the danger of infection is greatly lessened. The control of hemorrhage cannot be so complete where the placenta is brought away, and it is difficult to clasp the vessels with clamps. The consideration also should be kept in mind that a woman who has extra-uterine pregnancy may become pregnant again and the cicatricial tissue on the abdomen may become stretched and the patient be a subject for hernia. There are many other reasons why a vaginal incision is advisable, especially if a vaginal operation has to be done for any other trouble. One of the points in diagnosis that has been valuable in many cases is the presence of milk in the breasts, which sometimes shows itself before rupture, even if that occurs within twelve weeks, and he believed should always be looked for in any suspected case.

Dr. Figueira wished to say in regard to temperature that in the first place we must make a distinction between the cases in which there is rupture and those in which there is no rupture. In cases of tubal pregnancy before rupture there may be, and often is, an elevation of temperature, but in those cases that rupture, the rule is that the temperature is sub-normal during the first twenty-four or forty-eight hours. He recollected well a case which he had with Dr. Skene, in which both watched the temperature very closely in regard to this point, and in that case the temperature was sub-normal for forty-eight hours until reaction took place and inflammatory symptoms began to show themselves and then the temperature went up. During the period of hemorrhage, depression and shock the temperature is sub-normal. In cases of tubal pregnancy in which there is no rupture there may be some elevation of temperature, because there is generally some inflammatory action.

In regard to diagnosis, of course, in the case of which he spoke he had no occasion or chance to make an examination. It did not strike him as possible that such was the condition. Where we can get the history of the case and where the suggestion comes to your mind that it may be a case of tubal pregnancy, the physical examination per vaginum or per rectum is enough in many cases to make the diagnosis clear. In the case of a ruptured tubal pregnancy we would find a large tumor or a mass in Douglas' cul-de-sac or the uterus pushed to one side; whereas in the case of appendicitis the mass is high up and does not interfere with the uterus or does not displace it, or does not fill the cul-de-sac. Then there is the history of the case, the history of fainting, history of periods skipped, history of attacks that come on and pass off, an entirely different history from that of appendicitis.

Dr. W. C. Wood observed that Dr. Figueira had recalled the old saying that it is impossible to make an accurate abdominal diagnosis except by a process of exclusion. He thought that we should succeed more often in these difficult cases if we follow that method of reasoning.

PROCEEDINGS OF SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, June 19, 1900.

(1313 Bedford Avenue.)

The Vice-President, H. A. Fairbairn, in the Chair.

There were about 75 members present.

The minutes of the May meeting were read and approved.

REPORT OF COUNCIL.

The Council reported favorably upon the following:

James J. Hanan, P. & S., 1899.
R. C. Baker, N. Y. Univ., 1874.

APPLICATIONS FOR MEMBERSHIP.

J. Glen Allan, 145 Noble street, P. & S., N. Y., 1880. Nominated by H. B. Delatour, seconded by W. B. Brinsmade.

Robert Stevenson, 99 India street, P. & S., N. Y., 1899. Nominated by Charles B. Clark, seconded by H. P. de Forest.

Edward R. Pfarre, 196 Lincoln Place, L. I. C. H., 1899. Nominated by S. Matheson, seconded by H. P. de Forest.

William Duncan Silkworth, 440 Ninth street, Univ. Bell Medical Coll., 1899. Nominated by S. Matheson, seconded by H. P. de Forest.

Charles F. A. Walsh, Seventy-eighth street, near Third avenue, L. I. C. H., 1895. Nominated by H. P. de Forest, seconded by J. O. F. Hill.

ELECTION OF MEMBERS.

The following having been duly proposed and accepted by Council, were declared elected to membership:

Michael Achetta, Naples, 1892.
Arthur W. Slee, L. I. C. H., 1899.
Charles O. Tupper, Jef., 1886.
Charles A. Haffner, P. & S., 1896.

SCIENTIFIC SESSION.

"The Surgery of the Liver and Gall-Passages."

(Continued from the May meeting.)

I. "Traumatisms of the Liver and Gall Bladder." By James P. Warbasse.

II. "Cholecystitis." By Henry B. Delatour.

III. "Cholelithiasis." By Mathias Figueira.

Discussion by William Maddren, A. T. Bristow, Walter C. Wood, William E. Butler, Henry P. de Forest, James C. Hancock, Peter Scott, Charles L. Kessler, Mathias Figueira, H. B. Delatour, C. F. A. Walsh, Dr. Pierson, Dr. Levy, James P. Warbasse.

MISCELLANEOUS BUSINESS.

The Secretary stated that, in accordance with the action of the Council, the Library during the months of July and August would close at 6.30 P.M.

On motion, adjourned.

David Myerle,
Secretary.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, Tuesday, September 18, 1900.

(1313 Bedford Avenue, at 8.30 P.M.)

The President, L. S. Pilcher, in the Chair.

There were about 150 members present.

The minutes of the previous meeting were read and approved.

REPORT OF THE COUNCIL.

The Council reported favorably upon the following:

Edward R. Pfarre, L. I. C. H., 1897.
Robert Stevenson, P. & S., 1899.
C. O. Tupper, Jefferson, 1886.
William Duncan Silkworth, Univ. Bell., 1899.
J. Glen Allan, P. & S., 1880.

APPLICATIONS FOR MEMBERSHIP.

Albert S. Nicholson, 677 Bedford avenue, P. & S., Balt., 1881. Nominated by Arthur V. Payne, seconded by David Myerle.

James Parker Becker, 473 Madison street, L. I. C. H., 1896. Nominated by George W. Colby, seconded by H. P. de Forest.

D. W. Barry, 262 Putnam avenue, Yale, 1884. Nominated by George W. Colby, seconded by H. P. de Forest.

Clara Steinbrenner, 401 Putnam avenue, Baltimore, 1885. Nominated by George W. Colby, seconded by H. P. de Forest.

Joseph Benjamin Kopf, 320 Fifty-eighth street, Univ. N. Y., 1895. Nominated by J. E. Sheppard, seconded by E. C. Bennett.

ELECTION OF MEMBERS.

The following having been duly proposed and accepted by the Council were declared by the President elected to membership:

James J. Hanan, P. & S., 1899.

R. C. Baker, N. Y. University, 1874.

SCIENTIFIC BUSINESS.

1. "Brooklyn's Water Supply, Its Source and Limitations." By Arthur S. Tuttle, Member Am. Soc. C. E., Asst. Engineer Dept. of Water Supply, N. Y. City.

2. "Water Purification with Special Reference to the Brooklyn Water Supply." By George W. Fuller, Consulting Expert, Water Purification and Sewage Disposal.

3. "The Biology of Brooklyn Water Supply." By Hibbert Winslow Hill, Director Biological Laboratory, Health Dept., Boston, formerly of Brooklyn Health Department.

Discussion by Drs. Wilson, Bartley and Bell, of East Hampton.

On motion, duly seconded and carried, the President extended the thanks of the Society to the speakers of the evening.

Dr. Raymond moved: that the papers presented on the subject of the Water Supply of Brooklyn be referred to the Committee on Public Health for consideration and for the presentation by that committee of recommendations to the Society.

Seconded and carried.

Dr. Maddren, on behalf of the Committee on New Building, stated that his committee would not be able to present their report until the next meeting of the Society.

The President congratulated the Society upon the large attendance, the excellent character of the papers and the favorable opening of the season's work, and announced that at the October meeting the Society would take up the discussion of "The Medical Diseases of the Liver."

On motion the meeting adjourned.

David Myerle,
Secretary.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

SECTION IN LARYNGOLOGY, RHINOLOGY AND OTOLOGY.

WILLIAM C. BRAISLIN, M.D., *Editor.*

Second Stated Meeting, Thursday, May 17, 1900.

Presentation of Patient: Case of Cholesteatomatous Otitis Media Purulenta, etc.. 854
Henry A. Alderton, M.D.
Presentation of New Instruments: A New Septometer.. 856
Henry Wallace, M.D.
Acute Middle Ear Suppuration: Anatomy................ 857
H. N. Hoople, M.D.
Etiology, Pathology and Symptomatology................ 861
C. N. Cox, M.D.
Treatment.. 867
S. N. Lutz, M.D.

Case of Cholesteatomatous Otitis Media Purulenta Chronica, Complicated by Mastoid Abscess, Extradural Abscess and Facial Paralysis. Operation. Recovery, with Permanent Mastoid Opening and Epidermization of the Mastoid and Middle-Ear Cavities.

Henry A. Alderton, M.D.

Mr. W. J. C. was referred to my care November 14, 1899, by Dr. Frank L. Tucker of Brooklyn. He was 25 years old. At the age of 2 he had scarlet fever, which left him with a chronic middle ear suppuration on both sides, never healed. Five weeks before he was first seen by the writer, coincident with a cessation of the discharge from the left ear, the patient began to be afflicted with dizziness, frontal headache, fever and pain over the mastoid process of that side. Five days later he was operated upon by a general surgeon. The discharge and more or less pain in the ear persisted, otherwise he felt well. On the 11th, swelling appeared in front of and also above the ear; with this the patient began to have headache and constipation, but there was no dizziness. At 2:45 P.M., on the 13th, he had quite a severe chill or rigor lasting ten minutes, followed by vomiting. This was accompanied by intense headache and swelling under the left eye.

By the time that Dr. Tucker reached him in the evening the pain had subsided and the doctor found that the pus had discharged through the operation wound. He now felt more comfortable but the swelling continued to spread over the inferior maxilla of the same side up to about opposite the pre-molar teeth.

Examination.—November 14th, the patient looks pale and emaciated, his tongue is coated, breath slightly offensive, pulse 90, temperature 99.6° F., swelling extends from the outer angle of the eye above and backward until it involves the whole mastoid process. The principal point of tenderness is just above and behind the upper insertion of the auricle. There is an operation wound one inch behind the posterior auricular fold; a probe detects no communication with the mastoid antrum but passed between the periosteum and the bone—discovered bare, necrosed bone above the auricle. The left external auditory canal is much swollen and filled with cholesteatomatous material, pus and granulation tissue at the fundus; the tympanic membrane is perforated and mostly destroyed. The right canal and middle ear are similarly affected. Dr. J. W. Ingalls found the eye-grounds normal. The head is held stiffly, and any motion of the jaw is painful.

Operation, November 15th, at 3 P.M., in the presence of Drs. Tucker, King, Macumber and Dooling. An incision was made extending from one inch below the tip of the mastoid process to two inches above the upper insertion of the auricle, joined at the level of the upper insertion of the auricle by another incision passing horizontally forwards to within one inch of the outer angle of the eye. On dissecting back the posterior flap the former operation wound in the bone was exposed, situated 1 to 1¼ inches posterior to the spina suprameatum and somewhat below its level; the wound was about ⅝ of an inch in diameter and extended down to the dura, which was covered by healthy granulations. From the horizontal incision flowed a quantity of intensely fetid, thick pus which had collected between the periosteum and the bone, and from whence some had dissected its way to the first operative opening and so partially escaped. After exposing the mastoid process and cutting away the attachment of the sternocleidomastoid muscle, an opening was made through a sclerosed mastoid (which was also narrowed from behind forwards by the projection of the sigmoid groove strongly into the process) to the antrum. No pus was found in the mastoid but so soon as the antrum was opened, offensive pus, similar to that found externally, welled up under pressure. The probe entered the aditus and the attic and found both carious and covered with luxuriant granulations. Through the tegmen antri the probe made its way into the cranial cavity through a carious fistula. The antrum, aditus and attic were curetted and put in good shape.

The anterior flaps were now laid back and the outer table of the skull was found necrotic over an area of about 1 inch, of a grayish-green color; through the center oozed the fetid pus. This area was situated just above the external auditory canal and about 1½ inches from it. The outer table was removed and the inner table found sequestrous over a much larger area, being removed in pieces by the forceps. The probe now discovered a line of adhesive inflammation attaching the dura firmly to the bone and shutting off the abscess cavity from the skull contents; also, a fistulous tract leading downward to the tegmen antri and through the opening there into the antrum. All the bone up to the above-mentioned line of limitation was removed and the bridge of bone between the opening so made and the fistula in the tegmen antri removed, so that the opening into the cranial cavity was directly continuous with that into the antrum. The dura was exposed for a space about 1½ inches in diameter, over the temporosphenoidal lobe, and was covered with granulations and bathed in fetid pus. The dura was now curetted and found to be healthy under the granulations. The middle ear was thoroughly curetted through the canal and found to contain granulations and cholesteatomatous material, as did the antrum and the attic. The operation wound was now flushed and packed, after tying the bleeding vessels. Before the conclusion of the operation it was found necessary to resort to active stimulation by means of hypodermics and enemata. The patient was removed to the ward in a fair condition.

The patient made a practically uneventful recovery, except for a left facial paralysis lasting a few days, following curettage of exuberant granulations in the wound. At present (June), the operation wound is still in connection with the middle ear and open externally; both the wound and the middle-ear tract are firmly epidermized and without secretion. It is remarkable that the other middle ear, affected with the same disease process, though conscientiously treated, still discharges.

Presentation of a New Septometer.

Henry Wallace, M.D.

The instrument was made at my suggestion by H. A. Kaysan, 35 Bond street, Brooklyn. This modification of the Seiler septometer was designed to overcome several defects in its construction and practicability, without changing in any way its mechanical action.

The advantages claimed for it, and which in the modifier's hands render it much more easy of practical manipulation, are as follows:

1. The angle at which the handle is attached to the shank of the instrument.

2. The location of the scale. This is more in the line of vision and can be easily read without the operator's changing his position, as is almost absolutely necessary in the old pattern.

3. A lever is employed to separate the blades instead of direct pressure on the arms of the instrument, at which point also is located the scale.

I have heard it remarked by rhinologists that they seldom, if ever, have recourse to a septometer, and that the eye is a perfectly safe guide to the thickness of the septum.

Personally, and it may be from lack of extensive experience in this matter, I always feel safer if I take an exact measurement by means of this instrument before operating on a case of septal deformity where there is any uncertainty as to the thickness of the partition.

These few points are all that the writer has to offer in apology for another "modification."

It is simply another case of some one's instrument modified by some one else.

The Anatomy of the Middle Ear.

H. N. Hoople, M.D.

Nature has safeguarded the tympanum and placed it like a casket of jewels within a bone-walled vault. The jewels there functionate with least danger from the forces of the outside world—the coarse blows of the Brobdingnags—but not therefore without great danger from the *little* forces—the stealthy invasions of the Lilliputians. So there are occasions when their guardian, the aural surgeon, must come to their aid with leech and lance, hammer and chisel. When such is the case the very fact that they are ensconced in such a fastness makes them a greater source of peril to the economy of which they are a part. The little door at the inner extremity of the external canal gives but inadequate access to the chambers of the narrow house. The attic is a proper hiding-place for hostile germs and may possibly be cleared of them through Shrapnell's membrane. But, failing this, when mastoid or tegmen is irretrievably involved, obscession must be met by counterinvasion through the bony walls. Hence the need of knowing well the anatomy of the middle ear.

Why the peculiar arrangement of parts that obtains in the middle ear? Why not a closed cavity with but one opening? Or, if a second was needed to regulate air-pressure, why must it terminate in the danger-region of the nasopharynx? Why not externally by another bony-walled canal? Simply because this second canal must be mucous-lined like the tympanum and mastoid cells, whose secretory and excretory functions—similar to those of the ethmoid and sphenoid cells—it aids in performing. Knowing that every part of the economy has a final cause in the Creator's mind we may well hesitate at obliterating it. For example, if an ample air-chamber of many compartments is better than a little one, a mastoidotomy may not be an unmixed good: it may save life only at the cost of a function; and though ossicles aid auditory function in normal states, yet ossiculectomy may be a loss that bone-necrosis and its consequences compel us to inflict. It is simply wonderful that our hands, bungling even when most knowingly and skilfully directed, are able to meddle with these delicate adjustments of means to ends and yet have them go right afterwards. But this is the justification for our office and work.

The cavity of the tympanum proper is a narrow chamber, laterally compressed to dimensions of 3 to 3½ mm. in thickness, lying in the center of the temporal bone about 1½ cm. from the outer end of the bony external auditory meatus in the adult. It is applied internally against the hard bone of the labyrinth—that aspect of the middle ear that is *least vulnerable* from middle ear inflammation.

The *outer wall* of the tympanic cavity is formed by the drum-membrane and the tympanic ring, whose groove, or sulcus, receives it. This ring, fibrous at birth, develops into the bony external canal, the circle failing to be completed superiorly where its deficiency is made good by the Rivinian segment. As this segment is often late in becoming united to it, clefts and fissures are found here partly filled with vessels and fibrous tissues, which give ready passage to retained pus in middle ear suppuration in children, and is a common starting-point of the subperiosteal abscess. The tympanic cavity narrows into an attic above subdivided by the ossicles into two compartments. The roof of these compartments is a thin lamella of bone—the tegmen tympani on which lies the dura of the middle cerebral fossa. *Next to the mastoid cells this is the most vulnerable* part of the middle ear, partly because of its thinness, penetrability and the frequent presence of the so-called "dehiscences," and also because of an intimate anatomical connection in the young between the dura and the subtegumenous mucous membrane. Also, the petro-squamosal suture, not ossified in the earlier years of life, gives passage to vessels from the dura which easily become channels of infection, or the track of pus for sub- and epidural abscesses.

The external compartment of the attic is subdivided by the external ligament of the malleus into an upper and a lower section. This latter—Prussak's space—is so completely restricted by the neck, short process and external ligament of the malleus, and body and short process of the incus, that, when covered by mucous membrane, these parts are almost everywhere in continuity, leaving but small openings above and posteriorly. These openings are soon closed in acute inflammations, causing distention downward of this space in the only direction in which there is relaxed wall—the lower boundary of the space being formed by Shrapnell's membrane, which then bulges into the external auditory canal.

The posterior portion of the tympanic cavity is extended behind the attic into the antrum and mastoid cells. The *aditus ad antrum,* being usually a small opening, is also easily closed when the middle ear is inflamed. Once the antrum and mastoid cells have been shut off from the general tympanic cavity by inflammation, destructive processes begin in the mastoid cells. It is *this part* of the middle ear which most frequently undergoes destructive necrosis when quick resolution does not take place. The mastoid cells are undeveloped at birth and small in children, yet the antrum at birth is as large as in the adult. It cannot well be opened from the external canal but must be entered through the mastoid apophysis. A triangle formed by the linea temporalis, the posterior wall of the external canal, and a perpendicular line joining their extremities, encloses the so-called "operation point," lying 5 mm. posterior to the spina suprameatum which is the natural terminus of the posterior branch of the tympanic ring. This "operation point" Randall found, in an examination of 1100 skulls, to be invariably below the lower border of the middle fossa, the average distance being 6 mm. He found it at least 11 mm. anterior to the average site of the sigmoid groove. It was never farther than 20 mm. from the antrum, and it was never less than 16 mm. from the Fallopian canal and the external semicircular canal. In these findings he was unable to sustain the claims of Koerner that the area of safety was more certainly encroached on in the brachycephalic skulls than in the dolichocephalic.

The sigmoid groove, lying in such close nearness to the upper series of mastoid cells, occupies *third place* in point of vulnerability from otitis media. Frequently the groove itself is softened and broken down so that even careful curetting will uncover the sinus before its location is seen.

Deficient ossification of the tympanic ring in that portion of it which forms the posterior canal wall causes this latter, from its proximity to the mastoid cells, to be the *fourth point* in order of vulnerability from middle ear inflammations.

This bony wall is traversed by the Fallopian canal, which enters it at a point 1 to 4 mm. *behind* and a little *below* the middle edge of the drum-membrane. Its transit across the posterior inferior portion of the tympanic cavity takes it well out of the reach of ordinary dangers except necrosis and curetting; but it is easily vulnerable in radical operations. The canal gives passage not only to the facial nerve, but also to the stylomastoid artery which supplies the mastoid cells and is the sole supply of the incus, injury to which accounts for the frequent necrosis of this ossicle.

The *tympanic floor* lies over the bulb of the jugular, separated from it by 1 to 5 mm. of bone. The anterior wall, similarly variable in thickness, forms the posterior wall of the carotid artery. Sometimes, according to Gruber, this wall is situated so far posteriorly within the tympanum and is so thin, that a paracentesis of the drum-membrane done well forward would penetrate it and wound the carotid.

The remainder of the anterior wall of the tympanum is merged into the tympanic end of the Eustachian tube. This narrow canal 1½ in. long opens by its trumpet end into the nasopharynx just behind the inferior turbinated, its direction from without inward, downward and forward being at an angle of 135° with the external auditory canal. Where it joins the floor of the tympanum and adjacent posterior wall of the carotid, Siebenmann has pointed out cells of pathologic importance, *fifth* in order of vulnerability from otitis media. It was in this vicinity that Gruber in 1895 found a huge cell about ½ an inch in two dimensions by ¾ of an inch in the third, extending to the internal meatus, the bulb of the jugular and the mastoid cells, separated from each by the thinnest layer of bone. It is awful to contemplate the things which might happen from surgical interference in mastoiditis with such a finding.

How to avoid the dangers growing out of the Stacke and Schwartze-Stacke operations will not be detailed here, as these are operations of election in diseased conditions essentially chronic. But the landmarks are the same as given above. It will be stated merely that Koerner has found with great constancy the facial canal remote as much as 5 mm. from the usual point of attack when cutting away the posterior superior canal wall.

Acute Suppuration of the Middle Ear.—Etiology, Pathology and Symptomatology.

Charles N. Cox, M.D.

Pathology.—It is customary in describing acute inflammation of the middle ear to speak of two kinds, an acute catarrhal inflammation, and an acute suppurative or purulent inflammation. In the former, resolution frequently takes place without rupture of the membrana tympani. Such cases one does not hesitate to call simple or catarrhal inflammation. When rupture takes place, however, it is not easy to determine whether the inflammatory process has been purulent from the beginning, or whether infection has been produced from without after perforation; for the discharge from the middle ear is then usually of a purulent character. From a clinical standpoint it is better, perhaps, to consider the two diseases as different stages of inflammation of the middle ear.

Acute suppuration of the middle ear is, then, an intense stage of inflammation of that cavity, characterized by a perforation of the membrana tympani and the occurrence of a purulent discharge.

The inflammatory process commences as a hyperemia or congestion of the lining membrane of the tympanic cavity. Then follow swelling and exudation. The exudation consists of serum, mucus, pus and blood in varying proportions. This exudation soon fills the tympanum and begins to press the membrana tympani outwardly. Pressure necrosis is soon produced at the most prominent portion and rupture takes place. In influenza especially, and in the exanthematous diseases generally, there is a marked tendency of the inflammatory process to extend to the mastoid antrum and cells.

The disease is most frequently confined to one ear, but both may be affected, especially in the exanthemata or influenza. Many cases, especially in young children, after discharging from a few hours to a day or two, get well. If the disease continues longer the inflammatory process is more destructive. As time goes on the epithelial lining becomes lost in places and the deeper layers are involved and granulations spring up. As the mucous membrane lining the tympanum is very thin and so closely associated with the underlying bone, it may readily be seen how easily necrosis can take place when invasion is more than the most superficial.

Acute suppuration of the middle ear is met with at all ages, but it is by far the most frequent during childhood.

The route of invasion is almost always through the Eustachian tube, and not from without, by way of the external canal, as is so generally thought by the lay mind.

ETIOLOGY.

Predisposing Causes.—There are a number of predisposing causes of this disease. Chief and foremost is adenoid vegetations at the vault of the pharynx. Nor is it necessary that the lymphoid mass may be large. Sometimes there is very little hypertrophy of the pharyngeal tonsil—so little as to cause no obstruction to nasal breathing, yet at the same time it is in a state of chronic inflammation, which predisposes to acute inflammation of the middle ear. The importance of adenoids as a predisposing cause of ear affections is much better understood now than ever before. But in spite of all that has been written and said upon the subject, there is still in many quarters a most unwarrantable disregard of the presence of these growths. When one takes into consideration the striking and gratifying results following removal of adenoids, which are witnessed time and time again—results which are shown not only in their local effects, but in their very transformation of pale, flat-chested puny weaklings into sound and healthy children—it seems beyond understanding that little sufferers can be allowed to go from bad to worse with a nasopharynx full of adenoids—so full sometimes as to be seen projecting below the soft palate—without recognition or rational effort to remove so palpable a cause of disease.

Other predisposing causes are the various forms of intranasal disease, especially those of an obstructive character. These latter are more frequently found in adults.

Pre-existing disease of the middle ear itself, especially that of chronic suppuration, is a marked predisposing cause of acute inflammation, for the chronic stage of suppuration is subject to acute exacerbations.

Heredity is thought to play an important part as a predisposing cause. But I doubt if direct heredity alone ever exists. More immediate predisposing factors can always be found. It is more likely that the hereditary causes are struma and an inherited organization below par, lacking the normal power of resistance and subjecting its possessor too easily to purulent processes in general. The subjects of tuberculosis are somewhat predisposed to acute suppuration of the middle ear. Now there is a peculiarity of the disease when tubercular infection of the middle ear has taken place, *viz.:* that the suppurating process lacks the acuteness by which it is usually characterized. There is little if any pain. The first manifestation is a discharge of muco-purulent matter. The tympanic cavity instead of being intensely congested and hyperemic, is pale and edematous, analogous in appearance to that of tubercular inflammation in mucous membranes elsewhere. The inflammation tends to assume a chronic form from the very beginning.

Diabetes owing to its well-known accompaniment of suppurative processes in different parts of the body is a predisposing cause of acute suppuration of the middle ear.

Exciting Causes.—The most frequent exciting or immediate cause of acute suppuration of the middle ear is an acute inflammation of the nasopharynx or posterior nares. Hence we find it a very frequent accompaniment or complication of the exanthematous diseases in which these regions are severely involved. Especially is this the case with scarlet fever and measles. These cases are usually of a violent and destructive type, particularly those following scarlet fever.

The middle ear is also excessively liable to be invaded in epidemic influenza or grip.

A cause of much frequency in years gone by was the use of the nasal douche. Many cases have followed as a result of its use. The danger has been so often pointed out that comparatively few employ the apparatus at this day. Occasionally, however, its use is still advised, and mention of its danger is made here as a further warning and protest against its employment, unless there be perfect patency in at least one nostril, so that there may be no hindrance of exit of the solution from the nasopharynx, in order that nothing be forced up through the Eustachian tube.

This stricture applies somewhat, but in a much lesser degree, to the little duck-shaped glass douche, much used by the laity, and known by different names, but most generally as the "Birmingham douche."

Cautery operations upon the posterior end of the inferior turbinal have frequently been followed by acute suppuration of the middle ear. I believe the danger to be so great that I rarely, if ever, employ this method to reduce posterior hypertrophies, preferring to remove them with the cold snare.

Middle ear suppuration is said, sometimes, to follow operations for removal of adenoids. Inasmuch as more or less inflammatory reaction follows removal of these growths, there is no reason why this might not occasionally take place. Personally, I have never seen it occur except in ears which had been the seat of previous attacks. Nevertheless, since it may occur, it is the part of judicious forethought to warn parents of its possibility.

Immersion of the head during the act of swimming and bathing is quite often followed by purulent otitis media, and it is generally thought that the trouble is set up by the entrance of cold water into the external meatus. But unless the drumhead be ruptured by sudden compression of the air within the canal, or there be an old perforation, it is more likely that the affection is caused by forcing up through the Eustachian tube water which has been inadvertently drawn into the nose and nasopharynx.

Direct injury to the middle ear is not an infrequent cause of suppuration. Such traumatism has been produced by the brutal and criminal act of boxing the ears, by the accidental driving of a foreign body into the auditory canal, or unskilful attempts at its removal. But the most frequent cause of traumatism is the very reprehensible habit of scratching and digging at the canal with an aurilave or hairpin.

Reflex action has been thought by some to be an exciting cause of inflammation of the middle ear; and it is a very prevalent belief among the laity especially, that "teething" causes running ears. I do not believe it. Certainly neuralgic earache or otalgia often accompanies this process. But I have never yet seen it cause inflammation of the middle ear.

Micro-organisms.—Micro-organisms, undoubtedly, play an important part in the etiology of purulent inflammation of the middle ear. The organisms chiefly found in the discharge are the following: (1) Streptococcus pyogenes, (2) staphylococcus pyogenes, albus and aureus; (3) Fraenkel's pneumococcus or diplococcus; (4) Friedlander's pneumo-bacillus; (5) the tubercle bacillus. But the results of bacteriological investigations are, as yet, not sufficiently crystallized to form an etiological classification based upon the presence of micro-organisms.

Symptomatology.—The first positive sign of suppuration of the middle ear is a purulent discharge from the tympanic cavity into the external canal. This, however, is preceded by a train of symptoms due to the earlier stage of inflammation of the middle ear, before rupture of the membrana tympani takes place. The first complaint of the patient is that of a deep-seated pain, referable to the ear. This is often accompanied by severe headache in the temporal region. The pain is markedly increased by pressure upon the tongue. The slightest pressure can scarcely be borne without flinching. The hearing power of the affected ear soon becomes impaired, and tinnitus is more or less severe.

The temperature usually ranges from 101° to 102° F. There is apt to be considerable constitutional depression. In the more severe cases there is sometimes delirium. The general symptoms are more marked in children. Convulsions are not unfrequently seen in this class of cases. And the aural trouble is sometimes overlooked, before discharge takes place and makes it manifest, on account of the gravity of the reflex manifestation. Inflammation of the middle ear should always be thought of as a possible cause of infantile convulsions. In very young children, who are not old enough to localize or express the seat of pain, there is some difficulty in arriving at a conclusion as to whether it is in the ear or not. There is, however, a sign which is almost pathognomonic, and that is the cry of the child. It is a shrill, piercing continuous cry. Nothing can distract the little one's attention. It goes right on crying without a moment's cessation, until completely exhausted or until the severity of the pain has become somewhat mitigated for the time being. Presently another paroxysm of pain commences and the child awakens suddenly from a restless, moaning sleep, with a shrill cry as before, which continues without cessation until the storm abates its fury.

Upon examination with the speculum and reflected light, the membrane, in the early stage, before rupture, is seen to be reddened, varying in intensity from that of a red line along the malleus handle to an injected appearance of the vessels of the whole membrane. Later, the membrane becomes a livid red and all landmarks are effaced. Bulging then begins. When perforation has taken place, pus will be seen in the external canal. When this is mopped away, the perforation can usually be seen in the membrana tympani, through which purulent matter is oozing. It is sometimes, however, difficult or impossible to bring the perforation into view, on account of its diminutiveness and extreme swelling of the parts. Its most frequent site is the antero-inferior portion of the membrane.

When rupture of the membrane takes place, pain usually ceases—but not always. The temperature drops to normal and the constitutional symptoms vanish. The discharge is at first sero-purulent, but very soon becomes distinctly purulent.

Involvement of the mastoid cells and antrum is characterized by increased pain and augmentation of the constitutional symptoms. The mastoid process is swollen, edematous and tender upon pressure; and there is "sagging" of the postero-superior wall of the bony portion of the external meatus. If there be much swelling of the mastoid, the auricle is pushed outward and forward in a characteristic manner. Involvement of the intracranial structures may be indicated by increased temperature, delirium, vomiting, paralysis, etc.

Involvement of the mastoid cells and antrum is characterized up-and-down temperature, sweating and rigors.

Extension to the labyrinth is rather unusual in acute middle ear suppuration. Its occurrence may be suspected if there be marked dizziness, nausea, and absolute deafness for all notes, or certain parts of the musical scale—usually the higher notes.

The cause of acute suppuration is uncertain. The discharge often ceases in a few hours, resolution takes place and in a little while the ear is restored to a normal state, with its function perfectly preserved. More frequently the discharge continues from one to three weeks. Even then a fair amount of hearing power may eventually return, especially if judicious treatment be followed. The longer the purulent process continues the more the function of the ear is endangered. If the disease continue for more than a month or two, it passes into the chronic form with all of its attendant evils.

Diagnosis.—The diagnosis depends upon the presence of a perforation of the membrana tympani through which purulent matter is passing from the tympanum, taken with the symptoms already enumerated. Before perforation takes place, it is impossible to distinguish between an acute catarrhal inflammation and the more intense purulent inflammation. When the opening in the membrane cannot be seen the discharge may be taken for that arising from myringitis, a furuncle, or diffuse inflammation of the canal. But the amount of pus formation in these conditions is insignificant as compared with that proceeding from a suppurating middle ear. In the absence of a visible opening in the membrane a little pulsating light reflex will frequently be seen down deep in the canal. This is practically a positive proof of perforation. As a final test, gentle inflation by means of the Politzer bag, or by Valsalva's method, will generally elicit a sound of air escaping from the middle ear, the so-called "perforation whistle." And then, upon looking into the canal, minute air bubbles will be seen in the pus where the pulsating light reflex was observed. If the inflammation be confined chiefly to the attic and the perforation be in the membrana flaccidi, or Shrapnell's membrane, it may be impossible to force air through the opening. This portion of the membrane should always be very carefully searched in making a diagnosis.

Treatment.

Stephen H. Lutz, M.D.

The treatment of acute purulent otitis media is in the beginning to keep the catarrhal inflammation with which this trouble usually begins from becoming purulent. This sounds like an Irishman's "bull," but it is about the truth.

For the pain which is nearly always present, the best thing to use is hot water, either poured into the canal from a spoon or syringed gently into canal, using a fountain syringe placed not more than one or two feet above the level of patient's head. Instead of using one of those simple means of treatment to be obtained in every house—sweet-oil, camphorated-oil, almond-oil, and laudanum, turpentine, kerosene, hot onions, tea-leaves—poultices of all kinds of soft, soppy materials are poured into or put on the outside of the ear, and these methods of treating cases turn many simple catarrhal cases into violent suppurative cases. Instead of plain hot water, boric acid or any other mild antiseptic can be used. Hot salt bag, hot plate, hot water-bag, Japanese pocket stoves can be used in place of wet heat. Where there is much congestion of tympanic membrane and canal wall adjacent, leeches or artificial leeches can be used in front of the tragus and over mastoid close to auricle. If the trouble comes from nasopharynx, as it generally does, silver nitrate, 20-80 grs. to the ounce, may be used to swab nasopharynx. After this is done wait a few minutes and try gentle inflation with Politzer bag. I do not do this very often because it is generally one of the surest ways of turning a simple catarrhal case into a suppurative case.

The catheter can be used more often than the Politzer method of inflation in early stages. Hot air, as suggested by Dr. Van Zant of Philadelphia, or hot water, as suggested by Dr. Politzer, can be injected through the catheter into Eustachian tube.

Nitrate of silver, weak instillations, or on a swab through catheter, can also be used. It is better not to give opiates because they mask the kind of pain and its exact location. When the pain and congestion become worse and the tympanic membrane bulges, the only thing left is to do a paracentesis. The operation done to-day is a very much more important proceeding than was formerly done. The knife is plunged into the most bulging portion of the tympanic membrane, carried up to and well into the attic and then with a fair amount of pressure so as to cut well into the deep tissues of middle ear, swept downward and backward in a crescent along the bony canal wall. The old operation of making a hole in the drum to let out the fluid is not done now except in exceptionally few cases. This incision is best done under nitrous oxide anesthesia, if patient cannot be depended upon to hold still, because there is the liability of doing an ossiculectomy unwittingly or cutting into the facial nerve above. Cocaine, 4-10 per cent., is sometimes used, but gives very little relief from the pain of this operation. When the incision is made it is very often impossible to keep up good drainage, because the incision heals up so quickly. Douching, with very hot water, every hour, is about the best means of keeping up good drainage. Gauze drains, carefully put through the incision into the attic or middle ear and left there only six to twelve hours at a time, sometimes do good but are too apt to turn an acute purulent otitis media into a chronic purulent otitis media. If the tympanic membrane has ruptured of its own accord the perforation must frequently be enlarged to admit of proper drainage. Gentle Politzerization or Valsalva's method of inflation will clear the middle ear. The Siegle is less frequently used because it causes more congestion.

The discharge from acute purulent otitis media nearly always ceases in from three or five days to two or three weeks, the greater number taking the shorter time. If after three or four days the discharge is not much better I usually use peroxide of hydrogen or boric acid douches in addition to hot syringing. When the discharge thins out but still persists, hydrastis, zinc sulph., protargol, nitrate silver solutions may be used to dry up the secretions. I do not like the use of powders of any kind because they mask the condition of the drum and cause fresh trouble when it is necessary to clean the canal forcibly.

One of the most frequent causes of acute purulent otitis media is hypertrophied tonsils and adenoids. These are best removed when the discharge from the ears has quieted down or, still better, entirely ceased. I have seen two cases of mastoiditis following adenoid operations—not my own cases—done when ears were freely discharging.

I have not mentioned any drugs for internal administration because I believe none of them do good, except in helping the pain, and when they do help the pain they mask the more important symptoms of mastoiditis, which is so apt to follow suppurative conditions of the middle ear.

Traumatic O. M. P. A. is best treated by letting the drum alone, gentle inflation carefully done, and keeping the ear clean and dry by gauze or cotton packing, which must be sterile.

Tubercular O. M. P. A. comes on without pain, and that is its very characteristic point, and almost always treatment of any kind fails to help the condition. Peroxide of hydrogen has acted better than any other drug, in my hands, in the few cases I have seen.

DISCUSSION.

Dr. Alderton: I was very much interested to listen to Dr. Hoople's paper on the anatomy of the middle ear. There were certain points which he failed to touch upon and that are of importance. First, there is a layer of cells sometimes found which establishes a direct communication between the middle ear and the carotid canal, and along this line of communication it is possible for pus to travel. Second, the fact that the sigmoid sinus may lie very far forward, so that the rules he has given for avoiding the sinus would not invariably prevent one from entering it; in fact, it is not very rare to find it hugging the posterior canal walls and it has been observed that the posterior canal walls form the anterior wall of the sigmoid groove. Further, the jugular bulb at times encroaches upon the posterior tympanic walls so that there may be no bony partition between the tympanic cavity and the bulb of the jugular, the place of the wall being taken by a fibrous membrane.

Dr. Cox speaks of infection as invariably proceeding from the nasopharynx to the middle ear along the Eustachian tube in acute suppuration. This does not always occur, for Rodolph and Bezold have shown that the middle ear structures as well as the internal ear become infected *de novo* as a part of the clinical process independent of the infection of the nasopharynx and simultaneously. A point with regard to tuberculous middle ear disease in the way of diagnosis is the gradual enlargement or melting away of a tuberculous perforation under observation. It has also been my observation that the operation for adenoids can produce an acute suppuration of the middle ear in an ear not previously diseased. Jansen has recently drawn attention to nystagmus as an early symptom of invasion of the labyrinth in suppurative trouble of the middle ear. The invasion of the labyrinth may take place either through the semicircular canals, the vestibule or through cells situated in the bone lying around the cochlea.

I cannot agree entirely with Dr. Lutz in his objection to the use of opiates in acute middle ear suppuration. I have found them very useful in the early stages if controlled by administration of a laxative. Also in regard to gauze drainage, I have had the best of results by means of the use of the gauze drain. It is my custom in the case of an acute suppurative process of the middle ear threatening the integrity of the drum first to treat the canal antiseptically, then incising the drum membrane thoroughly and wiping away the blood and pus and passing in a gauze drain lightly through the drum and packing the concha with gauze, over which is placed absorbent cotton and a bandage. By this means it is often possible to secure a cure of the process in a few visits. Of course, if the gauze becomes saturated at each dressing, which should be done anywhere from six to twelve hours, then it will be found necesary to change the form of treatment and employ syringing. I am entirely opposed to the use of peroxide of hydrogen in acute suppuration of the middle ear. I am very much in favor of the use of certain remedies in acute cases; such, for instance, as belladonna and pilocarpine.

Dr. W. C. Braislin: Here is a metal cast which I made a few days ago of the external auditory canal of a child of three years. The relation of the auditory canal to the subject of middle ear suppuration is a very important one, inasmuch as it is by this channel that inspection of the deeper region is made and diagnosis of the condition confirmed. The tortuous course of the external auditory canal which the cast shows accurately, emphasizes the necessity of examining the ears of young children with unusual care and gentleness. It shows why examination of the ears of the child is slightly more difficult than in adult life. The acute angle which the plane of the drum membrane makes with the long axis of the canal is here slightly more than forty-five degrees. As one looks into the canal through his speculum he sees the drum membrane not squarely presenting but sharply inclined inward, from above, downward, and moreover it faces slightly anteriorly. The tortuosity of the infant's auditory canal is overcome by gently introducing the speculum and at the same time drawing *downward* upon the lobule. *Upward* traction upon the concha better straightens the canal in the adult since this inner cartilaginous portion of the canal represented in the cast has become bony and is fixed and immovable, and as a consequence the outer and movable portion of the canal must be displaced in such manner as to get it into line with the bony portion. The growth of the bones of the skull in the adult brings the plane of the drum to a position more nearly upright, and hence it may be looked at from a position more nearly vertical to its plane. The nipple-like projection on the extremity of the cast of the canal is, of course, made by the depression of the malleus handle, holding the membrane in a state of tension.

Dr. French: During the reading of the excellent papers of the evening I recalled to mind a statement made in a prominent American text-book on diseases of the ear, the last edition of which was published seventeen years ago, and which I recently had occasion to consult, that otologists rarely made use of the rhinoscope as the revelations made by it did not compensate for the time employed. How different it is to-day! To the ear specialist the nasal passages and the nasopharynx have been a discovery and a revelation in the past fifteen years.

Two thoughts occur to me in connection with the etiology of acute suppuration of the middle ear. The first was mentioned by Dr. Cox and afterwards commented on by Dr. Alderton, namely: the occurrence of middle ear inflammation after ether operations in the nasopharynx. I am of the opinion that the middle ear complications, such as acute catarrh and suppuration, which occasionally occur after operations in the nasal passages and nasopharynx, while the patient is under the influence of an anesthetic, are commonly caused by the retention of blood clots about the Eustachian eminences, or to the flow of blood into the Eustachian tubes. When operations are performed in these cavities in the prone, or hanging hear, position, the blood collects in considerable quantities in the vault of the pharynx which, in such position of the head, acts like a cup to receive the blood. Being exposed to the air the blood quickly decomposes, becomes septic and irritating, and acts, in causing inflammation in the middle ear, in very much the same way as it is produced by a post-nasal cotton tampon, but in a much shorter time. I have yet to see a case of suppuration of the middle ear occurring after ether operations upon the nose and nasopharynx while the patient was in the upright position, and my associate, Dr. Dudley, and I have performed nearly a thousand operations in that position. This I attribute to the fact that the escaping blood is, because of the upright position, drained into the nasal cavities or lower pharynx, and is, therefore, not permitted to remain in the vault of the pharynx in adhering clots, to become a possible source of irritation to the highly sensitive aural structures in the immediate neighborhood. In the prone position the blood collects in the vault of the pharynx and solidifies there very much as jelly solidifies in a mold and becomes at once a foreign body. The fact that suppurative otitis media occasionally follows operations in the prone position and, in our experience, has never occurred after operations in the upright position, is worthy of careful consideration. Suppuration of the middle ear may extend to the mastoid cells and through them directly, or in other ways give rise to meningeal trouble, and, if I am right in my belief that the prone, or hanging head, position is occasionally responsible for an acute suppuration of the middle ear after operation, then the upright position may be regarded as a possible sense-saving or life-saving feature in operations upon the nose and nasopharynx.

The second thought is that pyogenic infection of the middle ear may occur from the flow of pus from an abscess of an accessory sinus of the nose, when the sinus is in a state of acute inflammation. The pus from a sinus having its outlet above the middle turbinated body, either the sphenoidal or posterior ethmoidal cells, can very readily find its way into one of the Eustachian openings. I do not know that this has been mentioned before as a possible etiological factor in acute suppuration of the middle ear, but I am disposed to believe that it occasionally acts as a cause and that cases have come under my observation which were produced in that way.

Dr. J. E. Sheppard: In *Archiv f. Ohrenheilkunde,* November 30, 1898, S. C. Larsen published the results of his observations on the treatment of acute middle ear suppuration in the case of 365 previously healthy soldiers. This number he divided into four classes. In the first the men were put to bed and instillations were used. In the second the men were put to bed without the use of instillations. In the third the men were not put to bed, but instillations were used, and in the fourth the men were not put to bed and instillations of fluid were not used. Larsen's opinion was that remaining in bed had no good effect. No antiseptic was used, boiled water only being employed. Nevertheless Larsen thinks that no fluid is called for. The use of the Politzer bag in acute middle ear suppuration is a moot point. I think it is indicated and use it. The use of peroxide of hydrogen has advocates. I do not use it in acute suppuration and only consider it indicated in chronic suppurative cases. Peroxide is supposed to burrow wherever pus is found, and if this is the case it may help, by carrying pus with it, to spread the infection. In incising the drum in acute middle ear disease I use a 95 per cent. solution of carbolic acid, lightly brushed over the proposed line of incision.

In a recent case of mastoiditis, in dressing the wound with carbolated gauze of the best manufacture, a bright red area developed about the wound, with formation of blisters, and the patient ran a temperature of 103°. It appeared like erysipelas. The gauze was discarded, but used in another case with like result. The cause was apparently some fault in the manner of sterilizing the closed packages after hermetically sealing. I have not used carbolated gauze since without carefully examining it.

Dr. Alderton: I have had very good results with the use of the gauze drain, both in acute suppuration of the middle ear in chronic suppuration and especially in case of furunculosis of the external auditory canal. It is not rare to find after treating the canal antiseptically and freely incising the furuncle and packing the canal under pressure that at the next visit the patient is entirely relieved of all pain and inflammation and goes on to make an uninterrupted recovery.

Dr. Lutz: If the patient can be seen often enough, say two or three times a day, I think the dry treatment is to be preferred to the wet treatment. In my experience at the Manhattan Eye and Ear Hospital in New York, several hundred cases treated by the wet method and half by dry method, the cases treated by wet method made largest percentage of rapid recoveries. These were all walking cases and could be seen only three times a week. They syringed their ears out and used peroxide at home three or four times daily. The other cases used cotton or gauze only, cleaning their ears three or four times daily and putting in fresh drainage material.

THE BROOKLYN SURGICAL SOCIETY.

JAMES P. WARBASSE, M.D., EDITOR.

Regular Meeting, March 1, 1900.

Dr. W. C. Wood, the President, in the Chair.

MULTIPLE AMPUTATIONS FOR TRAUMATIC INJURIES OF BOTH EXTREMITIES.

Dr. H. L. Cochran presented a boy, six years of age, who had been admitted to the Long Island College Hospital, in Dr. Wight's service, on October 30, 1899. He had been run over by a trolley car, and was brought in by the ambulance surgeon, who reported that there were compound comminuted fractures of both hands and both feet. He was suffering greatly from shock and was in such a condition at the time that it was not considered best to remove the dressings even for the examination. There did not appear to be any special hemorrhage, so he was simply treated at the time for shock. It was a question at the time whether he would live through the night, but he went through the night all right, and the next day his condition was slightly improved, although he was still suffering greatly from shock and from the loss of blood previous to coming to the hospital. On the next afternoon, his condition being somewhat improved, he was operated upon. His condition was such that it was certain that any prolonged operation would prove fatal. In order to shorten the operation, Dr. Wight was assisted by Drs. Rogers, Rae, Cochran, and a member of the house staff. One assistant took charge of each limb. As soon as the patient was anesthetized, the tourniquet was applied to the right arm, at the same time the dressings being removed. Dr. Wight immediately disarticulated a portion of the hand, leaving the stopping of hemorrhage, trimming of the flaps and dressing of the wound to the assistant. He then took up the right foot, which had been prepared while the previous operation was being done, and amputated at the ankle-joint, and then went to the left foot, which was amputated just above the ankle-joint. He then went to the left forearm, which was amputated in the lower third. The amputations, dressing of the stumps, and so on, were all done in the short time of twelve minutes. The patient suffered somewhat from shock. The following operations were performed: disarticulation at the second, third and fourth carpo-metacarpal joints and the terminal phalanx of the thumb of the right hand, leaving the little finger and a portion of the thumb of the right hand; disarticulation of the right foot; amputation of the left leg in the lower third, and disarticulation of the left hand at the wrist. The patient rallied well after the operation, but on the third day after, gangrene made its appearance in the stump of the left leg, probably from the extensive injury by the trolley, and extended to within two inches of the knee. On November 8th a reamputation of the left leg, on account of gangrene, was done. It was the intention to amputate at the knee-joint, but after disarticulation the tissues were in such condition it was decided to go higher up, and amputation was done in the lower third of the thigh. A drainage-tube was used, and the flaps brought together with silkworm gut. On January 10th, the tissues in the flap of the right leg having retracted, it was necessary to reamputate, which was done in the lower third of right leg, the flaps being treated as usual with drainage and silkwormgut sutures. For the same reason, retraction of flaps, the left forearm was reamputated on January 31st. The patient did well after the operations, with the exception of an abscess in the right forearm, the result of the extreme injury. He made an uneventful recovery. These flaps at the first operation were all treated by the open method; no time was wasted in sewing up the flaps. The patient was presented, not as a case showing anything noteworthy about the operations, but rather as an unusual case, so many operations being performed on the same person.

BOW-LEGS.

Dr. Arthur H. Bogart presented a case which had been operated eight months before at the Methodist Episcopal Hospital. On account of the extreme deformity, as shown by the photograph which was presented, and the excellent result, it seemed worthy of notice. The history was as follows: Patient nursed for nine months, after which time she was fed on a varied diet. She began to walk at the age of twenty months. Two months later it was noticed that there was a decided curve in both legs. This curve had steadily increased up to the time of admission to the hospital, about three years later. Examination showed a very marked degree of curvature of both legs; the deformity being confined entirely to the upper part of the tibiæ. The general condition of the patient was good. The child being less than four years of age, it was thought wise to use knock-knee braces rather than to operate. The braces were therefore ordered, but when it came to their application it was found that the curvature was so great as to prevent their being applied.

Both tibiæ were then broken after the usual method about one and a half inches below the upper end at the point of greatest curvature, and the deformity corrected. Plaster cases were applied and allowed to remain on for about five weeks, until good union had taken place. The braces were used for further support, and worn for about four months, at the end of which time she was allowed to go without support. The photograph showed the case at the time of discharge. Her condition when presented seemed as good as at that time, there being absolutely no tendency toward relapse.

CHOLECYSTOTOMY FOR STONE IMPACTED IN THE COMMON BILE DUCT.

Dr. A. T. Bristow reported a case which he had seen Nov. 9, 1899, in consultation with Dr. Henderson. The patient was a man, aged 33. He had been sick for about a week, was moderately jaundiced. The attack had commenced with the usual pain in the region of the gall-bladder, and radiated downward. His stools were clay-white, and he had been having the usual intermittent fever that characterizes these cases. About the third day after the commencement of the attack the symptoms all subsided, and he got up from bed and was about the house for twenty-four hours, when a second attack of pain and fever sent him to bed again. When Dr. Bristow examined him there was no tumor to be found in the region of the gall-bladder, but there was much tenderness there and a constant pain a little to the left. The speaker had expressed the opinion that the case was one of cholelithiasis, and that there was a stone impacted in the common duct. The patient was transferred to the hospital. The morning afterward all his symptoms again subsided, the temperature fell to normal, and it seemed possible that the stone had escaped into the duodenum, especially as the fecal matter passed that morning showed no signs of bile. On the following morning, however, all the former symptoms returned, the stools were again of a clay-white color, the jaundice was more intense, and the local tenderness had increased. He was accordingly sent to the operating-room, and Dr. Bristow opened the abdomen by the usual incision in the linea semilunaris. The gall-bladder was at once identified and drawn into the wound, the abdominal contents being protected in the usual way. The operator was unable to feel any stones through the wall of the distended gall-bladder, but on opening it it was at once apparent that there were a large number of calculi in the viscus. There was no pus, but much bile and mucus. He extracted fifty calculi of small size resembling nothing so much as the head of a clove. He then examined the common bile-duct, but could detect no calculus by palpation. However, he passed a small rubber catheter into the duct, and just before it reached the duodenum it met with an obstruction. On exercising firm pressure, however, it slipped suddenly into the duodenum. The speaker was of the opinion that one of these small calculi was impacted at the narrowest part of the duct and was pushed into the intestine. The mucous membrane of the gall-bladder was velvety and bled easily. The interior was well washed out with saline solution of a temperature of 110° F. and the wound in the wall of the gall-bladder stitched with a row of catgut sutures passed Lembert-fashion. The gall-bladder was then surrounded by gauze packing and dropped back into the abdomen. The incision through the parieties was then sutured, the ends of the drains being brought out of the upper angle. These were removed some days later and the opening allowed to close. The patient was discharged in three weeks. This attack had been the only one the patient had experienced.

Dr. Bristow said that it might be worth while to discuss for a moment the treatment of the gall-bladder in these cases. In his earlier operations he adopted the plan of suturing the gall-bladder to the peritoneum and deferring the cystotomy to a later date, when adhesions had formed. The biliary fistula which resulted was left to itself to close. This prolonged convalescence. It is a perfectly safe procedure, he said, but possessed the disadvantage of preventing a proper examination of the common duct, which is done to better advantage when it is possible to pass the finger into the foramen of Winslow, at the same time introducing a catheter into the common duct through the opened gall-bladder. It is perfectly possible to isolate the gall-bladder with gauze compresses and explore the bile-ducts and interior of the gall-bladder, and if a stone is found in the common duct which cannot be pushed onward or crushed between the fingers we are in a position to do a choledochotomy at once. The argument is, he thought, in favor of immediate opening rather than delay. As far as the subsequent treatment of the opened gall-bladder, he believes that in the most favorable cases the safest plan is to close the wound, but to surround the gall-bladder with gauze to guard against possible leakage. It is never wise to perform what has been termed ideal cholecystomy and close both gall-bladder and abdomen at the same time. Where the walls of the gall-bladder are much thickened, particularly if there has been suppuration, it is wiser to suture the viscus to the parietal peritoneum and drain it than to trust to drainage by the common duct. That is ideal after all, he said, which is the safest for the patient.

DISCUSSION.

Dr. W. C. Wood said that there are very few of us who had closed the gall-bladder in the way Dr. Bristow did in this case. It is a question whether we should not do so oftener. He had never seen but one case in which he thought perhaps it was safe to close the gall-bladder, and then hesitated to do so. The usual technique of draining the gall-bladder, when we stitch the gall-bladder to the abdominal wound, he thought, could be improved. It has been customary to suture these gall-bladders not only to the peritoneum, but to the fascia and muscles, and even to the skin. He was quite certain if we suture to the peritoneum or to the perineum and transversalis fascia that we leave a much larger vertical surface to granulate whereby we can accomplish closure of the biliary fistula more quickly. Perhaps, to avoid the septic infection in a case where the contents of the gall-bladder are especially septic, it is well to stitch the skin down temporarily for a day or two, and then withdraw these sutures, leaving those holding the gall-bladder to the peritoneum and fascia. Under these circumstances he had seen these biliary fistulas close in a very few weeks, instead of several months.

Dr. George R. Fowler said that in the matter of the final closure of biliary fistula, he had carried out in one instance the plan of making the opening in the gall-bladder sufficiently long to invert its edges so that the raw edges of the gall-bladder wall are turned well into the cavity of the gall-bladder itself. Then, instead of sewing the raw edges of the gall-bladder and its adjacent peritoneum to the parietal peritoneum, a more remote portion of the gall-bladder is attached to the latter. In one such case within four days from the date of the withdrawal of the drainage-tube the opening in the gall-bladder was completely closed. The object here is to give opportunity for union of serous surfaces, which unite quickly in the final closure of the biliary fistula, instead of the cut surfaces of the wall of the gall-bladder.

There is another class of cases somewhat difficult to deal with in gall-bladder surgery, he said, and that is the class of cases in which the gall-bladder is held strongly down by adhesions, so that it is impossible, or next to impossible, to bring the edges of the gall-bladder itself, much less the surface of the gall-bladder after inversion of the edges, to the parietal peritoneum. Under these circumstances it is best not to raise the gall-bladder to the peritoneal surface, but to perform the inversion method such as he had mentioned, and pass a drainage-tube into the viscus, securing it to the walls of the latter, and leading the end of the drainage-tube out of the abdominal wound. The track followed by the tube is packed with iodoform gauze. Under these circumstances the same rapid closure of the gall-bladder upon withdrawal of the tube can be accomplished, and the risks of the gall-bladder itself breaking away from the peritoneum are avoided. The adhesions which form about the outside of the iodoform gauze at first, and which subsequently close in about the tube, effectually preclude leakage into the peritoneal cavity.

Dr. M. Figueira said, in regard to closure of the gall-bladder after operation, that he believed in cases like Dr. Bristow's, in which the entire gall-bladder and all of the stones are cleaned out, in which we are sure that the passage from the gall-bladder into the intestines is perfectly free, in which there is no suppuration or other lesion of the gall-bladder, in such case the gall-bladder can safely be closed; but in cases in which there is suppuration or other lesion, or in which the common or cystic ducts are nearly occluded by adhesions or chronic inflammation, it is not safe to close the gall-bladder.

In regard to the early operation in case of gall-stones, he said that many of these cases are cured and relieved without operation; and we can never be sure in a man of that age, the same conditions remaining that gave rise to the formation of stones before operation, that the same thing will not happen again. The speaker said that when he can relieve these cases without operation in the early stages he does so.

Dr. J. B. Bogart said that he was pleased to notice that none of the speakers advocated immediate closure either of the gall-bladder or the abdominal wound without drainage. The plan that Dr. Fowler suggested, that of introducing a drainage-tube into the bladder when it cannot well be brought up, and then surrounding the tube with gauze, seemed to answer every purpose; and although some successes have been reported in cases in which both the gall-bladder and the abdominal wound have been closed immediately, it did not seem to him a justifiable procedure, however well adapted to it the case seemed to be.

Dr. W. C. Wood observed that we are undecided as to how urgent we should consider these gall-bladder cases; shall we operate at the onset of symptoms that are acute, or only for a recurrent condition? Shall the ordinary case of empyema of the gall-bladder, with pain and mild sepsis, be operated on, or should it be allowed to recover, as most of them will, to probably produce a second condition the same as the first?

Dr. G. R. Fowler said that when complete occlusion of the cystic duct obtains, and particularly where there is an infecting agent present in the contents of the gall-bladder, which not infrequently occurs, and where there is rapid distention of the gall-bladder itself, there is no question as to the propriety of operating. Richardson of Boston has brought this out clearly, and our own colleague, Dr. Delatour, has supported this contention with some indubitable facts derived from his own experience.

Where there is rapid distention of the gall-bladder, as shown by the presence of a tumor, and where, in addition, the tumor is tender, there is reason to fear the supervention of a gangrenous cholecystitis. Under these circumstances the operative procedure, in his judgment, should be instituted as early as under circumstances where an appendicular inflammation of a rapidly progressive character is at hand.

DR. WOOD said that, in reference to this question of gangrenous cholecystitis, he had seen one case. Dr. Pilcher, in a recent conversation, had told him he had never seen a case in his own practice, but he had seen one as a pathological specimen presented in New York. The question of the frequency of gangrenous cholecystitis is a very important one with reference to early operation for acute biliary inflammations. It would be interesting to know if any of the gentlemen present have seen gangrenous conditions of the gall-bladder as an acute process, and if so, how often.

DR. G. R. FOWLER said that one case occurred in his own experience, where the diagnosis of acute cholecystitis was made. It was a case he saw in consultation with Dr. Glentworth R. Butler of this city. Operative procedure was postponed, an attack of pneumonia supervening. It was strongly suspected that the pneumonic condition was in some degree to be ascribed to the absorption of infection from the gall-bladder itself. The autopsy in this case revealed a moderate-sized gall-stone blocking the cystic duct and the gall-bladder considerably enlarged, with well marked gangrenous areas as large as the thumb-nail scattered through its walls.

DR. H. B. DELATOUR said that in connection with these acute cases one condition had not been spoken of, and which occasionally demands operation: that is, intestinal paresis. In the acute inflammatory condition of the gall-bladder it is not an uncommon thing to find complete obstipation, and it is impossible to get a movement of the bowels either by cathartics or by injections. As soon as the condition in the gall-bladder is relieved the bowels will move naturally, and that is one of the symptoms which should lead us to operate early.

DR. J. B. BOGART said that he had seen one case several years ago in which there was limited gangrene. He did not see the case until after rupture had taken place, and a condition of general peritonitis, so far advanced that no operation could be thought of, had developed. The area of gangrene was small. The inflammation had been very acute, and the contents of the gall-bladder were pretty thoroughly distributed through the abdomen. The patient died of general peritonitis. The patient had not been sick very long. Dr. Bogart saw him about forty-eight hours after the rupture; and he died about three days after the rupture took place. He seemed to have been sick but a few hours rather than days, when rupture occurred. He was a young man and had had no previous attack.

Dr. Bristow added that with regard to the desirability of early operation in this first case which he presented, the patient had been ill a week, and had all the symptoms of total obstruction of the common duct. His temperature was running in the neighborhood of 102° to 103°; he was having chills, and it was not for him to assume that there was no pus in this gall-bladder. The fact that he found fifty stones was a sufficient indication to him whether there was pus or not to have operated, because, he said, if he had not operated and the stone which was impacted in the common duct had passed through, as it doubtless would, the patient would simply have been the victim of other attacks. In a case in which he operated in the Long Island College Hospital the woman had been having monthly attacks of gall-stone colic for twelve years, and he cut down on her gall-bladder, took out nearly a thousand gall-stones, and she made a good recovery

(*To be Continued.*)

HISTORICAL DEPARTMENT.

DEDICATION OF NEW LIBRARY BUILDING OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

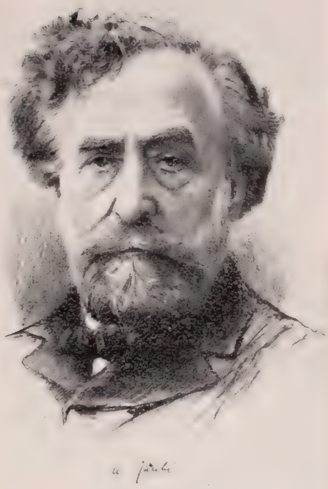
Speakers.

Lewis Stephen Pilcher, A.M., M.D., LL.D.

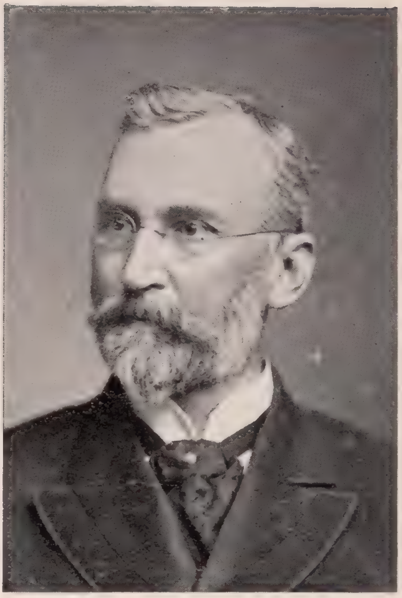
Born in Adrian, Lawrence County, Michigan, July 28, 1845. Educated at the University of Michigan, receiving the degree of A.B., 1858, and A.M. in 1863, and that of M.D. in 1866. Dickinson College conferred the degree of LL.D. in June, 1900, and about the same time the University of Michigan conferred the degree of LL. D.

Dr. Pilcher was Hospital Steward in U. S. General Hospital, 1864-'65, Interne Harper's Hospital, 1866, Assistant Surgeon U. S. Navy, 1869-'70, Past Assistant Surgeon U. S. Navy, 1870-72.

Began private practice in the city of Brooklyn in 1872. He



ABRAHAM JACOBI, M.D., LL.D.



GEORGE MILBRY GOULD, A.M., M.D.

REV. ALBERT J. LYMAN, D.D.

JAMES READ CHADWICK, A.M., M.D.

SPEAKERS AT DEDICATION OF NEW LIBRARY BUILDING,
MEDICAL SOCIETY OF THE COUNTY OF KINGS.

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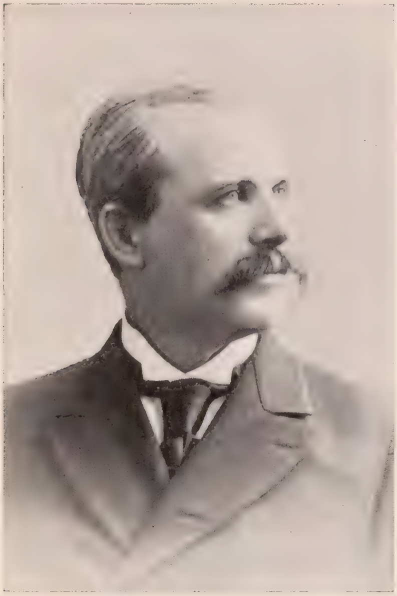
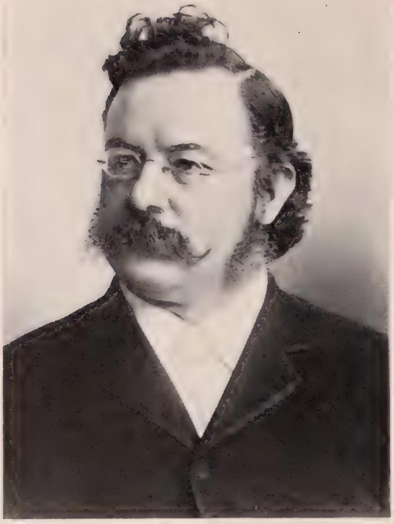
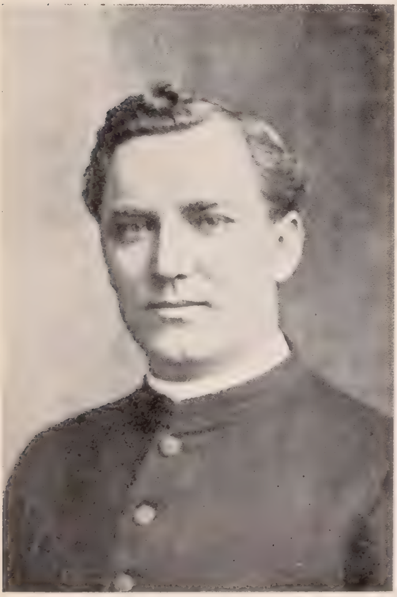


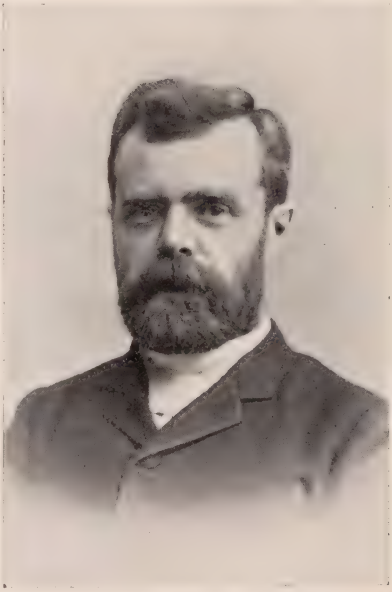
LEWIS STEPHEN PILCHER, A.M., M.D., LL.D.



WILLIAM MADDREN, M.D.



REV. JOHN P. CHIDWICK, U. S. N.



FRANK ELIOT WEST, A.M., M.D.

SPEAKERS AT DEDICATION OF NEW LIBRARY BUILDING, MEDICAL SOCIETY OF THE COUNTY OF KINGS.

has held the position of Lecturer on Anatomy at the L. I. C. Hospital from 1873-80, Adjunct Professor of Anatomy L. I. C. Hospital, 1880-82, and Professor of Clinical Surgery, New York Past Graduate School, 1884-95. Surgeon to the Methodist Episcopal Hospital from 1887, being also President of the Medical Board of the hospital.

President of the Brooklyn Anatomical and Surgical Society in 1879-80, President of the Brooklyn Surgical Society, 1889-90. President of the New York State Medical Society in 1892; Vice-President of the American Surgical Association in 1894, and of the Medical Society, County of Kings, being honored at the present time with the position of President.

Dr. Pilcher's contribution to medical literature in part has been as follows: Editor of the *Annals of the Anatomical and Surgical Society,* 1881-85; editor *Annals of Surgery,* 1885; "Treatment of Wounds," 8vo, 1883; "Seney Hospital Reports," 1887-97, 8vo, with Dr. G. R. Butler; Article on "Tracheotomy," "Reference Hand-Book of Medical Science"; Article on "Nævus," "Cyclopædia of Diseases of Children"; Article, "Surgical Diseases of the Female Generative Organs," "American Text-Book of Surgery"; Article, "Surgery of the Large Intestines"; Dennis, "System of Surgery," together with a number of addresses as president of the different medical societies.

REV. ALBERT J. LYMAN, D.D.

Born at Williston, Vermont, December 24, 1845; prepared for college at the Seminary at East Hampton, Mass., and graduated at the Union Theological Seminary in 1868. He was pastor of the Congregational Church at Milford, Conn., 1870-73. In January, 1874, he accepted a call to the South Congregational Church in this city. Of this church he is still pastor, also President of the Council of Associate Members of the Brooklyn Institute of Arts and Sciences. Dr. Lyman has ever responded when called upon by the physicians of Brooklyn, no matter what duty was asked of him, and the profession of medicine in this city—not alone—appreciate his labors in this direction, and honor and respect him accordingly.

GEORGE MILBRY GOULD, A.M., M.D.

Born November 8, 1848, at Auburn, Me. He was prepared for college in the schools of his native town, but there were other things about this time. In 1861 he entered the Federal Army as a drummer boy in the 63d Ohio Regiment; discharged in 1862 for disability, but reëntered in 1864.

After the close of the war he resumed his studies and graduated A.B. in 1873 from Wesleyan University, Ohio, receiving the degree of A.M. in 1889. Entered Harvard Divinity School, graduating S.T.B. in the class of 1874 and M.D. from Jefferson Medical College in 1888. Dr. Gould was President of the American Academy of Medicine in 1893, editor of the *Medical News* of Philadelphia, Pa., and author of "A New Medical Dictionary," "A Pocket Medical Dictionary," "A Dictionary of Medicine, Biology and Allied Sciences," and in connection with Dr. Pyle a "Cyclopædia of Practical Medicine and Surgery."

JAMES READ CHADWICK, A.M., M.D.

Born in Boston, November 2, 1844. He was educated in Harvard University, graduating A.B. in 1865, receiving the degree of A.M. from Harvard and graduating M.D. from its medical department in 1871.

Dr. Chadwick was one of the founders of the American Gynecological Society, of which he was Secretary from 1876-82, and President in 1897; Librarian of the Boston Medical Library from 1875; First President of the Harvard Medical Alumni Association, President of the Massachusetts Cremation Society, and Vice-President of the Harvard Graduates' Magazine Association.

He has contribued "A Manual of the Diseases Peculiar to Women," 12mo, 1881.

ABRAHAM JACOBI, M.D., LL.D.

Born in Germany on May 6, 1830, and educated in the universities of Greifswald, Göttingen and Bonn, graduating M.D. from the University of Bonn in 1851, the degree of LL.D. being conferred upon him by Columbia University.

Professor Diseases of Children, New York Medical College, 1860-65, University City of New York, 1865-70. Clinical Professor College Physicians and Surgeons, New York, 1870.

President New York State Medical Society, 1882, New York Academy of Medicine, 1885-88. New York County Medical Society, 1870-72. New York Obstetrical Society, 1868-69. New York Pathological Society, 1865-66.

His contributions to medical literature are voluminous, a list of which may be found in Dr. W. B. Atkinson's Biographical Dictionary.

WILLIAM MADDREN, M.D.

Born in London, England, August 14, 1845.

He was educated in the schools of New York and received his medical education in Bellevue Hospital Medical College, graduating M.D. in 1873. He has always practised medicine in this city, for a number of years has been physician to the Brooklyn Central Dispensary and Surgeon to the Kings County and St. Christopher's Hospitals.

Dr. Maddren has been an active member of the Medical Society County of Kings, being censor in 1889, and delegate to the New York State Medical Society, of which he was Vice-President in 1895; he has been a member of the Building Committee for a number of years, and the members of the County Society can form but a small estimate of the amount of labor performed as a member of that committee. He is a member of the Brooklyn Gynecological, Pathological and Surgical Societies, Practitioners' Club of Brooklyn and the Associated Physicians of Long Island, and has contributed a number of medical papers.

FRANK ELIOT WEST, A.M., M.D.

Born in Pittsfield, Mass., February 8, 1851.

Was prepared for college at Greylock Institute, and graduated A.B. from Williams College in 1872, receiving the degree of A.M. in 1875, and M.D. from the Long Island College Hospital in 1876.

Visiting Physician to the Long Island College and Brooklyn Hospitals, and Consulting Physician to the Kings County and Williamsburg Hospitals, and Professor of Materia Medica, Therapeutics and Clinical Medicine, Long Island College Hospital, President of the Alumni Association Long Island College Hospital in 1885. He is a member of the Brooklyn Medical Book Club and Pathological Society, New York Academy of Medicine and the State Medical Society and the Associated Physicians of Long Island. His most active labors have been in connection with the Medical Society County of Kings, Censor 1887-88, Vice-President 1890, President 1891, Trustee 1892 to date, and for a number of years a member of the Building Committee, during this time he has presented a number of medical papers. An active life in behalf of our profession.

REV. JOHN P. CHIDWICK, U. S. N.

Chaplain on board the U. S. Battleship "Maine," when that ship met her fate in Havana Harbor, Cuba, on the night of

February 15, 1898. Since that time he has been chaplain on the U. S. R. S. "Vermont," stationed at the Brooklyn Navy Yard.

William Schroeder, M.D.,
Sec. of Hist. Com.

James Lawrence Little, M.D.

(Portrait published in September.)

Born in the City of Brooklyn, February 19, 1836, and died in the City of New York, April 4, 1885. His early training and education were received in the private schools of Brooklyn. In 1857 he entered the office of Willard Parker, M.D., and matriculated at the College of Physicians and Surgeons, receiving the degree of M.D. in 1860. This was followed as interne for six months in Bellevue Hospital, and two years in the New York Hospital in 1862. He was appointed Surgeon in Chief of the Park Barracks Hospital, New York City, which was followed by the appointment as surgeon to the temporarily erected Hospital at Washington, D. C.

In 1863 he was appointed Clinical Assistant to Prof. Willard Parker, in the College of Physicians and Surgeons, New York, retaining the position until 1879. In 1874 he was offered the Chair of Surgery in the Long Island College Hospital. This honor he declined. In 1875 he accepted the Professorship of Surgery in the University of Vermont, retaining the position until 1885. In 1879 he was appointed Professor of Clinical Surgery in the Medical Department University City of New York. He occupied this position until 1882, in which year he took an active part in founding the New York Post-Graduate Medical School. On the organization of this school June 15, 1882, he was appointed Professor of Clinical and Operative Surgery, and was at the time of his death President of its faculty.

Dr. Little's reputation as a surgeon was of a very high order, beginning in 1861, when he presented his paper on the treatment of fractures by the plaster-of-Paris splint, his papers have been frequent during his entire professional life, relating to the different departments of surgery.

He was a member of the American Medical Association, New York State Medical Society, New York Academy of Medicine, Hon. Mem., Vermont State Medical Society, New York County Medical Society, New York Pathological Society, Medico-Legal Society, New York Surgical Society and the Northwestern Medical and Surgical Society.

William Schroeder, M.D.,
Sec. of Hist. Com.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

Dr. James M. Winfield has been appointed Dermatologist, and Dr. William Browning Neurologist to St. John's Hospital.

Dr. Charles T. Frischbier, formerly interne at the German Hospital, is now on the staff of the Manhattan State Hospital.

Dr. Lester Laurens Roos (P. and S., 1900) was recently appointed to the house staff at the German Hospital.

Dr. and Mrs. Russell S. Fowler sailed the middle of September for Europe.

Dr. Sewall Matheson of Bergen street, who went abroad for three months, plans to return the first week in December.

Dr. E. G. Zabriskie, brother of Dr. John B. Zabriskie of Flatbush, who has been completing his studies in Germany, will spend the coming winter in India with his mother, and start for home in the spring, probably via the Eastern route.

Dr. R. H. Sullivan, of Franklin avenue, has given up practice in Brooklyn for the present, and has gone to Baltimore. He will spend the winter in the South, for the benefit of his wife's health.

Dr. P. Chalmers Jameson reported to the Long Island Medical Society at its October meeting a new instrument devised for the surgical treatment of trachoma by superficial grattage, which, if the favorable comments of his brother ophthalmologists can be regarded as an indication of its worth, is likely to prove a most valuable contribution in the treatment of this disease.

Through the generosity of twelve of the members of the Medical Society of the County of Kings, a valuable acquisition has been made to the library of the society by the purchase of the library of the late Dr. B. A. Watson of Jersey City. It comprises about five thousand volumes—largely bound—containing some choice samples of very early medical works. It has recently been placed on exhibition.

The first meeting of the Section on Materia Medica and Therapeutics was held October 2d, at which Professor Hobart Amory Hare, of Jefferson Medical College, gave an address on "Materia Medica and Therapeutics as Supported by the Pharmacopœia and the National Formulary."

On October 6th the Associated Physicians of Long Island held their eighth regular meeting at East Hampton, forty-five members attending from Brooklyn, and about twenty from the Island. The special train, on which lunch had been served, brought the party to its destination in time to be driven about the village and to the ocean before the time set for the meeting. After an address of welcome by the Rev. Mr. Stokes, papers were read by Dr. Wm. H. Ross of Brentwood on "Some Experiences in the Treatment of Asthma," and by Dr. Lewis S. Pilcher of Brooklyn on "Results Attainable in the Treatment of Dense, Tight, Deep-lying Strictures of the Urethra." The discussion on the first paper was opened by Drs. Charles N. Cox and H. A. Fairbairn, and on the second by Dr. H. H. Morton. The members, together with other invited guests, were then entertained at dinner in Clinton Hall by the Ladies' Village Improvement Society. Dr. J. Finley Bell of East Hampton, was chairman of the entertainment committee, and acted as toastmaster. The bountiful repast provided was made more enjoyable with music by an excellent orchestra.

The regular fall meeting of the Long Island Alumni Association of the Medical Department of Columbia University was held October 13th, at the Oxford Club. A short address by Dr. J. P. Warbasse was followed by a smoker.

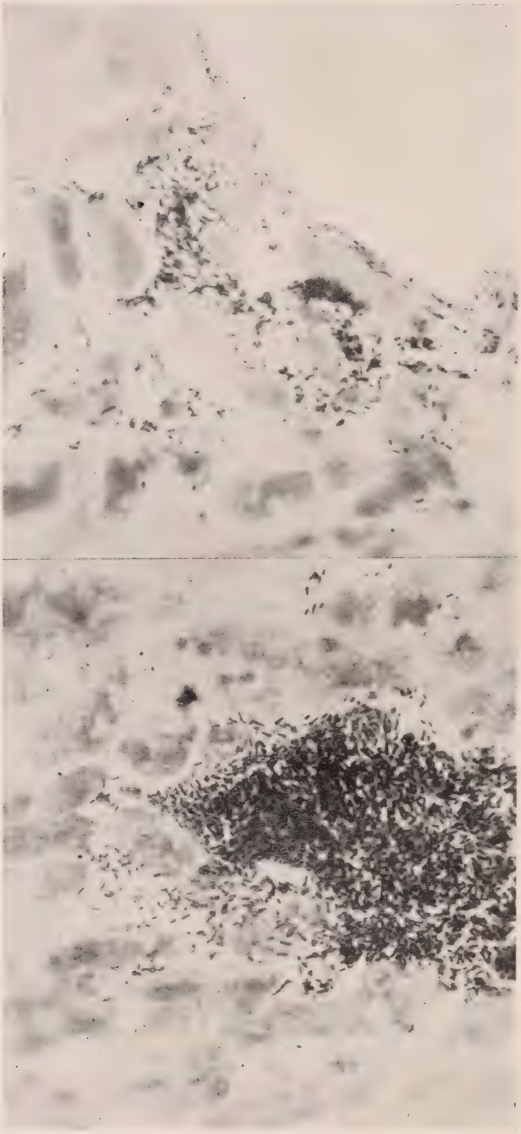
Under the auspices of the Alumni Association of the Long Island College Hospital, an address was delivered on October 17 at the County Society Building by Dr. Victor C. Vaughn of Michigan University; subject, "Present Day Medical Delusions."

The Roentgen Society of the United States will meet at the Academy of Medicine, New York, December 13th and 14th. It is especially desired that all hospitals using X-Ray apparatus, X-Ray studios, physicians and dentists doing X-Ray work, manufacturers and dealers in X-Ray apparatus of all kinds should communicate with the chairman of the Committee of Arrangements, Dr. S. H. Monell, 43 East 42d street, New York.

It was with great regret that the profession heard of the death, on October 3d, of Dr. W. W. Browning, of Reid avenue, Professor of Anatomy and Clinical Professor of Orthopedic Surgery in Long Island College Hospital.

The J. B. Lippincott Company of Philadelphia has recently acquired property on East Washington Square, in that city, on which a new building will be erected.

W. B. Saunders & Co. of Philadelphia have recently established a branch of their business in London.



BACILLUS AEROGENES CAPSULATUS.

Presented by **Archibald Murray**, M.D.

Photo-micrograph of section of liver showing bacilli and border of a cavity containing gas.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 414th Stated Meeting, Thursday, May 10, 1900.

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION VIII.—EZRA H. WILSON, A.B., M.D., CHAIRMAN.

The Bacteriology of the Conjunctival Sac and Its Bearing upon Operative Procedure 889
P. Chalmers Jameson, M.D.

Multiple Infection of the Heart and of the Liver by a Gas-forming Bacillus; Autopsy; Slides; Illustration 898
Archibald Murray, M.D.

Non-Malignant Tumors of the Breast 899
William B. Brinsmade, A.B., M.D.

Double Suppurative Mastitis in a Primipara at the Sixth Month of Gestation; History 902
George A. Williams, M.D.

Epithelioma of the Thumb; History; Specimen 904
Henry G. Webster, A.B., M.D.

The Bacteriology of the Conjunctival Sac and Its Bearing upon Operative Procedure.

P. Chalmers Jameson, M.D.

The subject of the bacteriology of the conjunctival sac perhaps has not received such attention in the past as it merits. Our older text-books contain relatively nothing as to the etiological bearing of bacteriology in conjunctival diseases, and modern ones dwell but slightly upon this subject. Recently, more interest has been stimulated and modern ophthalmic institutions have attached bacteriological laboratories to their working paraphernalia. The New York Eye and Ear Hospital, whose laboratory is under the able direction of Dr. Weeks, has taken the initiative in this respect and has done much good work.

Glancing at the conjunctival sac we cannot but be impressed with the fact that so far as external conditions are concerned, there could seemingly be no better "anatomical sink" for the collection and propagation of bacteriological life than that existing within its folds. We have apparently in this membrane and its anatomical distribution everything which at first thought would be favorable to constant suppurative conditions, for here is a cul-de-sac provided with secretion containing organic substances, albumen, mucin, epithelium, and salts, in minute quantity, maintained at a temperature suitable for the incubation of germ life, in an aperture constantly in contact with an atmosphere filled with contaminating and infective material. It is, moreover, brought often in contact with the hand, a continual source of infection, and is connected with the nasal duct, through which infection can take place through a not infrequently infected organ, the nose and its appendages. That it is frequently infected but enjoys singular immunity from the results of such infection is a bacteriological and clinical fact.

As might be expected of a wet surface exposed constantly to the atmosphere, it collects most of the organisms to be found in the air. If one desires to satisfy himself as to the amount of infectious material or atmospheric contamination to which the eye is subject, a vivid picture may be obtained by a comparison with other wet surfaces under like conditions. Perhaps the best illustration may be obtained by glancing at that of common laboratory experience, *viz.:* the contamination of culture media. Expose a Petri dish containing nutritive material to the atmosphere for a few minutes. Replace the cover and, under favorable conditions of temperature, many colonies are visible after a suitable period of incubation.

The eye must be the recipient of these same organisms and in addition to them many that are conveyed from the surrounding parts, and the other sources of infection already mentioned.

It is interesting, after glancing at these facts, to refer briefly to the bacteriological contents of the sac itself. Opinions differ as to the sterility of the normal conjunctiva.

Lawson Arnold, in a recent paper on the subject, states as the result of experiment in 200 cases, 20.5 per cent. remained sterile. Morax and Randolph believe that the normal conjunctiva is never sterile. Franke found 28 per cent. of his cases sterile.

The method in common use for obtaining cultures from the conjunctival secretion has been by means of the platinum loop the advantage being that it is easily and quickly obtained, and sterilization of the platinum loop is readily accomplished by passing it through flame. It must be borne in mind, however, that under this method only a small portion of the secretion is obtainable and if some process were devised by which a larger and more representative portion of the sac's contents were transferred, it is doubtful if any conjunctiva would be found to be absolutely sterile.

My own observations were taken from the secretion of 50 conjunctivas presenting in each case the average condition to be found in normal eyes of persons living in large cities where the dust, débris, and infective material in the atmosphere must of necessity produce a slight degree of hyperemia.

Time will not admit nor is it the function of this paper to go into an extended description of the organisms found in these observations, and their method of isolation; only the more interesting points will be mentioned, and those especially which bear upon the latter part of the title of this paper.

The platinum loop method was utilized. Cultures were made directly from the eye into gelatine and agar, and were at once either plated out or distributed by direct surface contact upon tubes of Loefler's medium. Out of 50 cases, thirteen were found to be sterile. The plates containing infected cultures contained a varying number of colonies ranging from one or two minute particles to ten, twenty, or thirty colonies.

The bacteria found in the sac and isolated were as follows:

Staphylococcus pyogenes aureus,
Staphylococcus pyogenes albus,
Staphylococcus epidermis albus,
Bacillus citreus,
Xerosis bacillus,
Bacillus coli communis,
Bacillus subtilis.

Two of the yeast variety of saccharomycetes and some others were found, but as they presented no pyogenic properties, they have not to this time been identified.

The point which interests us most is the presence in the normal conjunctival sac of the pus-producing organisms. In these cases the *staphylococcus pyogenes aureus* was found twice. It must be added, however, with reference to this organism; that time did not permit us to submit it to test of inoculation, but in every other respect they corresponded with the *Staphylococcus pyogenes aureus.*

The *Staphylococcus pyogenes albus* and its kindred organization, the *Epidermis albus* of Welch, were found in sixteen out of the fifty cases, the *Pyogenes albus* constituting seven of that number.

The difference between these organisms is that the former is more virulent than the latter, which liquefies gelatin more slowly.

That the pyogenic bacteria are found in the conjunctival secretion is an established fact, and that has been the experience of most observers.

In contrast, however, to this fact seemingly favorable to suppuration, we have the following contradictions:

1. The comparative rarity of suppurative conjunctival conditions taking the population as a whole.

2. The relative infrequence of suppuration after operative interference even under adverse circumstances.

3. The large proportion of sterile conjunctivas found in the bacteriological investigations of most observers.

There must be some rational explanation of this immunity of the normal conjunctivas, its reception of infective material on the one hand which we know occurs, and its clinical insignificance and innocuous result on the other, which is as much in evidence.

The writer believes that the structural and functional properties by means of which the eye takes care of infective material, may be discussed under four headings:

I. The property the normal epithelial surface possesses of resisting the inroads of infection.

II. The special property the phagocyte possesses in antagonizing pyogenic or other bacterial life.

III. The properties which the lachrymal and conjunctival secretions, when normal, possess, of inhibiting growth of germ life.

IV. The irrigative apparatus by means of which the eye is constantly douched by a steady flow from the lachrymal gland to the nasal duct.

I. The property the normal epithelial surface possesses of resisting the inroads of infection.

The epithelial surface undoubtedly plays an important part in the antagonism and growth of these bacteria. It is, of course, clinically noticeable that if one finds a normal lid lining there is, as a rule, normal secretion. On the other hand, an inflamed condition means, not only diminished resistance on the part of the structure itself and the consequent inroad of bacterial life into its interstices, but also, what is perhaps more instrumental in furthering bacterial growth, the out-pouring of blood elements through attenuated vessels into the conjunctival sac, thus adding to the lachrymal secretion material labor better suited for rapid bacterial propagation.

We can safely assume, then, what is in reality a clinical fact, that the epithelial lining of the sac when normal is capable of resisting the inroads of most infection, but should it from mechanical irritation, caused by dust or injury, become the subject of inflammation, the conditions both of the membrane itself and of the secretion, are altered and together produce a suitable nidus for propagation of germ life.

This matter of diminished resistance we see illustrated in other portions of the body. To quote from Abbott: "Halsted has frequently introduced the staphylococcus pyogenes aureus in bouillon culture or watery suspension into the peritoneum without the slightest injury to the animal. If, however, some substance which acts as a direct irritant to the intestines, such as a small piece of potato upon which the organisms are growing, be at the same time introduced, or if the intestines be mechanically injured so that there is a disturbance of circulation, the introduction of these organisms is followed by acute and fatal peritonitis."

This only demonstrates the resistive properties of these sensitive membranes under normal conditions, and the important part they play in maintaining equilibrium.

II. The special property the phagocyte possesses in antagonizing pyogenic or other bacterial life.

We know by clinical experience and bacteriologic research that the greater the outpouring of exudative material from an inflamed lid the more likelihood there is of a suitable nidus for germ life, but fortunately as the transudation for permeable vessels takes place, with it the phagocyte exerts its influence upon bacterial life. We are all familiar with the fact discovered by Leber and others, that leucocytes, by virtue of chemotaxis, are attracted from a distance by microbes and other particles, move toward these bodies, and, coming in contact with them, englobe them by means of their tactile sensibility.

Just how much this acts in the conjunctival sac as an antagonist to microbic growth is a question, but it undoubtedly acts in this capacity here as much as it does in other portions of the body as, for instance, within the peritoneum.

III. The properties the lachrymal and conjunctival secretions, when normal, possess of inhibiting growth of germ life.

It has been regarded possible by some clinicians, and also by others making bacteriological investigation, that by reason of this relative sterility of the sac in a large proportion of cases, the secretion might possess some antiseptic property in itself for inhibiting germ life. The writer, after having made this a matter of investigation, feels that this belief is erroneous.

With some difficulty, thirty minims of human tear secretion was obtained. This was placed without sterilization in a Petri dish, the groove of the circumference of cover fitting into the circumference of the dish, and smeared with vaselin to prevent evaporation. A control culture made with a platinum loop of recognized size was taken from the tear solution and transferred to the surface of an agar tube. This in turn was plated and incubated. Twenty-four hours in the incubator resulted in 1378 colonies. The tear solution was then inoculated with a mixed culture containing different organisms. A culture being then taken from this in the original manner, plated and incubated, resulted in an increase, there being 2200 colonies after twenty-four hours. A third culture taken in the same way resulted in 62,000 colonies after twenty-four hours of incubation. Including the second culture, there had been an increase of the organisms introduced into tear solution, but there was a diminution as far as they, the inoculated organisms, were concerned, after the third, showing, that while they grew primarily, the medium was not a sustaining one for them. The organism which flourished and which caused the rapid increase in the number of colonies after the third culture was taken, was a small, round opaque colony which was seen in the original control culture before the inoculation of mixed organisms with the normal tear solution.

The deduction to be made from these experiments is that while the tear secretion is not the best possible medium for germ life, it is capable of sustaining certain forms of bacterial life for a limited period, and others seemingly flourish continually in it.

IV. The irrigative apparatus by means of which the eye is constantly douched by a steady flow from the lachrymal gland to the nasal duct.

The lachrymal gland, situated above the outer angle of the lid under the orbit, provides for the most part the secretion of the eye, which is conveyed by four or five large and eight or ten smaller excretory ducts to the *fornix conjunctivæ.* This is supplemented by the secretion of the conjunctiva itself. Overflow upon the face is prevented to a certain degree by a sebaceous deposit upon the margin of the lids. The constant flow toward the nasal duct is due to syphonic action, by diminution of the amount of air in the nasal cavities during inspiration and to the compressive action of the orbicularis muscle forcing the tears toward the nose. We, therefore, have a constant and to a certain extent forcible flow of saline solution which must of necessity convey with it free impurities or bacterial life.

With a view of determining the period of time elapsing between the reception of the infective element and its disappearance, the following experiment was resorted to:

A guinea-pig with a normal conjunctiva having been secured, a control culture of the secretion of agar was obtained. The conjunctival sac was then inoculated by a platinum loop containing the *Bacillus prodigiosus,* an organism selected by reason of its easy recognition, presenting a bright red hue in culture. Successive cultures were taken every half hour at first, and at longer intervals later. This was done at different periods in three different animals. The shortest period which this flow took to dissipate the organism was twenty-four hours, and in one case it was two and a half days in disappearing. It is possible, however, in this latter that the pig reinfected his eye by contact with portions of the cage where he had previously deposited the bacillus.

The writer, basing his opinion upon the foregoing experiments, is inclined to believe that this irrigative function of the eye is its most valuable one, both in the disposition of foreign material and in the constant change of media which must be an important factor in retarding the growth of numerous organisms.

This brings us to the second portion of this paper, its bearing on operative procedure.

The immunity from suppurative conditions which the eye enjoys after operative procedure, even under adverse circumstances, is a matter of striking interest. It may be owing to this fact that we not frequently hear comment as to the want of aseptic precautions in ophthalmic surgery.

Relying upon the above-mentioned factors antagonistic to bacterial life, or more likely upon the clinical conditions which exemplify them, the ophthalmic surgeon may feel that strenuous efforts to establish an aseptic field for operation are unnecessary in an organ itself supplied with such perfect apparatus for sterilization.

The question naturally arises, Are we justified in adopting less stringent procedures for the attainment of asepsis in eye surgery? Clinical and bacteriological experience teach us that in abnormal inflammatory conditions of the conjunctiva, these organisms flourish, and while in all cases they may not be the exciting cause of inflammation, yet they are undoubtedly the most important factor after it is established.

This indicates that to the normal eye secretion there has been added nutritive material suited for the rapid propagation of these organisms.

Is not, therefore, the same principle applicable in operative interference because it must of necessity add to the tear secretion a blood element? Although clinically it is a fact that, in most cases, the irrigative apparatus and other means that the eye has of taking care of itself, is capable of antagonizing bacterial growth, yet there are those incidental cases of severe suppuration, few though they may be, and occurring at infrequent intervals, which are, nevertheless, most disastrous to an organ almost as valuable as life itself?

We therefore learn that conditions are sometimes reversed when the organisms of infection assume the upper hand, and that the irrigative apparatus is by no means infallible.

For this reason we have formed the opinion that, notwithstanding the fact that we have valuable agents in the eye for maintaining asepsis, efforts to put the conjunctival sac in the best possible condition for them to perfectly complete their work, are strenuously necessary. These must of necessity be aimed to prevent the introduction of germ life from without, and to secure the elimination of residual bacteria from within the sac. The first can only be accomplished by adopting the same rules which modern general surgeons follow in the preparation of the operative field, the person, the instruments, and the surrounding portions of the orbit. Cleanliness of the orbit may be secured by use of such solutions as will thoroughly wash out the cul-de-sac without diminishing its resistance. Strong antiseptics must of necessity be barred, but the douching with some mild innocuous antiseptic solution should, in the writer's mind, be much more thorough than is generally practised.

As a summary, therefore, we learn:

1. That the pyogenic or pus-producing organisms are found in the normal conjunctival secretion, although probably in an attenuated form.

2. That under normal conditions they do not propagate.

3. That the eye under normal conditions is bountifully supplied with means of antagonizing bacterial growth.

4. That diminished resistance, such as occurs in inflammations of the membrane in operative interference, alters the nutritive nature of the secretion and probably converts it into a more suitable medium for germ life.

5. That the secretion of the eye is not in itself an antiseptic.

6. That strong antiseptics in the conjunctival sac diminish its resistance and place the eye on a lower plane to resist germ invasion.

7. That much attention should be given to washing out the residual bacteria prior to operation.

8. That as much care should be taken with regard to antiseptics and cleanliness in the external preparation of both patient and operator, as is adopted by the general surgeon of modern times, for while the danger of suppuration is more remote, the result, if it occurs, is more disastrous.

It was through the kindness and assistance of Dr. Wilson, Director of the Hoagland Laboratory, and his assistant director, Mr. Randolph, that I was enabled to carry out such bacteriological work as supplement the principal points of this paper, and I desire to express my thanks to them for their kindly, painstaking interest and for the help they willingly extended in this investigation when themselves engaged in the arduous duties of everyday laboratory work.

108 Pierrepont Street.

DISCUSSION.

Dr. Hancock agreed with the writer of the paper in thinking that the eye possesses a certain immunity under ideal conditions, but believed that under the conditions found in coast cities and in cities around the Great Lakes they are quite adverse. Many persons in such localities are subject to nasal catarrh; there is no more fertile field for the development of bacteria than in the subacute and chronic congestion found in nasal catarrh extending to the conjunctival sac.

With regard to the use of antiseptics, he seldom used them in the eye, and does not think any antiseptic that can be used is of any merit whatever. Bichloride of mercury, 1 to 5000, is used, but it is doubtful if the temporary contact is of any importance. A sterilized solution should be used and dependence must be placed entirely upon the flushing of the sac to clear it of germs. In many conditions an operation must be done during inflammatory conditions, such as glaucoma, and it is especially important in these cases that the field be as clear as possible. In preparing to operate upon the eye we should be as cautious as if we were to do a laparotomy. Unfortunately little attention has been paid to this very important subject and almost nothing concerning it is found in our text-books.

Dr. J. Scott Wood stated that the thorough disinfecting of the eye is a task which has been conceded by all who have done any work in the bacteriological line to be practically impossible. If an antiseptic sufficiently strong to destroy the bacteria be used it will do harm to the eye.

The President (*Dr. Henry*) called attention to the fact that the secretions from the eye have much to do with the catarrhal conditions found in the nose, and the secretions from the eye have a marked influence in maintaining a normal condition in the nose. If there be an irritative condition of the eye secretion it will produce a congested condition also in the nasal cavity.

He had occasion once to prove that through a stricture of the nasal duct where influenza was of very frequent occurrence, after opening the duct the influenza became very much less, and the treatment through that channel was the means of reaching the locality which was the point of origin for the attacks of influenza.

Multiple Infection of the Heart and of the Liver by a Gas-forming Bacillus; Autopsy; Slides; Illustration.

Archibald Murray, M.D.

Male, aged 60 years. Entered hospital for prostatic trouble. Autopsy performed 12 hours after death. Body well nourished, rigor mortis well marked, some crepitation in tissues about neck. no edema. Abdomen greatly distended with gas, peritoneal cavity normal. Slight congestion and edema of bases of both lungs, no adhesions.

Pericardial sac contains about two drams of blood-stained fluid. *Heart* somewhat enlarged, myocardium pale and soft, and riddled with small holes, the largest being about the size of a pinhead. Left ventricle dilated, right heart filled with soft clots. Some atheroma about coronary openings.

Kidneys show a moderate chronic diffuse non-indurative nephritis; the right has a cyst the size of a large orange springing from the peripheral cortex. Adrenals negative. Stomach distended with gas to twice its normal size and walls very thin. Intestines and appendix normal.

Liver much smaller than normal, and filled with holes similar to those in the heart, the process being much further advanced in the right lobe than in the left. The gall-bladder contained about 100 small calculi.

Pancreas normal. Bladder contains a few small blood-clots. Prostate considerably enlarged and contains several small abscesses. Another small abscess was found between the prostate and rectum.

The brain was not examined.

Microscopical examination shows an enormous number of long, thick bacilli scattered throughout the liver-tissue and in the walls of the cysts.

Masses of organisms were also found within the vessels. There was a moderate cirrhosis and fatty degeneration of the liver. The cells forming the cyst-walls are in an advanced stage of cloudy swelling, the nuclei either not staining at all or very faintly. The number and distribution of the organisms in the heart are similar to those in the liver. The same organisms were found in the left kidney but in much fewer numbers and no holes or cysts were found.

The organisms stain well with carbol-toluiden blue or Gram.

Unfortunately, no culture was made, but the size of the organism, its staining-reaction, and its effect upon the tissues would justify us in calling the case a multiple infection by a gas-forming bacillus—probably the Bacillus aerogenes capsulatus.

The photomicrographs of a section of the liver bordering upon one of the cavities filled with gas were taken by Dr. Wilson and Mr. Randolph of the Hoagland Laboratory.

145 Clinton Street.

Non-Malignant Tumors of the Breast.

William B. Brinsmade, A.B., M.D.

The mamma lies between two layers of the superficial fascia, which splits to receive it, and upon the pectoral fascia with which it is loosely connected.

Under the gland is a lymphoid space and here begin many of the carcinomata. Over the gland the superficial layer of fascia is closely connected with the skin by fibrous processes. The so-called *ligmenta suspensoria*, which dip down into the areolar network of the breast. This much of the anatomy of the heart must be kept in mind in examining all cases. It explains the dimpling of the skin and retraction of the nipple over the part of the gland-substance affected by cancer or chronic inflammation.

I would insist upon the most thorough examination in every case of breast disease. Clinically the diagnosis is difficult. The surgeon who removes the whole mammary gland and axilla contents under the mistaken diagnosis of cancer is not only doing poor scientific work and causing needless deformity, but he commits the patient and her immediate family to a life-long dread of the disease. The idea of heredity in cancer is firmly fixed in the lay mind. The discovery of a parasitic origin would bring happiness to many a home.

In making an examination of the breast, all clothing should be removed from the trunk and the patient covered with a sheet.

A.—The two breasts must be compared, the appearance of the skin and nipple noted by inspection. Then the flat hand is laid upon the affected breast and the gland pressed back on the chest-wall. If a tumor with definite circumscribed boundaries is felt, it is probably either (1) a cyst, (2) a carcinoma, or (3) a fibro-adenoma.

B.—The mass detected is then manipulated between the thumb and fingers to determine its density, situation, and limitation.

C.—The hand is then passed into the axilla with the pulp of the fingers toward the chest-wall, and the glands are palpated.

The following benign tumors are found in the breast:

1. Lipomata in the cellular tissue; generally around the periphery or beneath the gland.

2. and 3. Enchrondromata and osteomata, probably the result of calcarious degeneration.

4. Angiomata. Easy to diagnose.

These four conditions are all very rare. Somewhat more frequently are found:

5. Pure fibromata.

5. Pure adenomata.

The common benign tumors:

7. Fibro-adenomata.

8. Simpler cysts.

9. Chronic induration.

10. Supernumerary glands.

11. Diffuse hypertrophy.

Diagnosis of the more common tumors:

Pure fibromata appears early in life—16 to 18 years—are small, well-defined round or oval nodules.

Pure adenomata occur at the time of greatest functional activity —33 to 40 years—appear beneath the nipple or areola; a well-defined tumor with an outline easily distinguished from surrounding tissue. They are either firm, soft, or they fluctuate, according to fluid contained. Growth is slow and painless. There may be a discharge from the nipple. They may be multiple.

Fibro-adenomata or *cystic fibromata* are seen in patients about 20 years of age, in any part of the breast, and may attain the size of a hen's egg. They are usually single, and sometimes are seen in both breasts. Clinically, they appear as nodulated, well-defined tumors lying subcutaneously and lifting the skin above normal level. Skin may be adherent or even ulcerate. Growth is rapid at first, then they lie quiescent except during pregnancy. The nipple and axillary glands are not affected. They have a well-defined capsule.

Cysts are seen in patients of 40 years or more of age, most frequently at the menopause, and generally multiple. They occur in any part of the gland as a firm, nodular, well-defined tumor. Cysts contain fluid, but the walls are so thick that fluctuation cannot often be detected. There may be a discharge of dark fluid from the nipple. Their growth is slow. Mucoid cysts also occur singly about middle life, and the lacteal cysts may develop, due to obstruction of the ducts or sinuses.

Chronic induration is the most difficult condition to diagnose positively. The following points as stated by Shield are of value:

a. Manipulation with the flat hand detects no tumor with definite circumscribed boundaries.

b. Manipulation between fingers and the thumb detects leathery area of induration, feeling like a tumor. These are often multiple and may be found in both breasts. They shade off into firm breast-tissue.

c. Tenderness of the mammary and axillary glands is common.

d. Retraction of nipple and puckering of skin may be found, especially when there is a history of acute mastitis.

c. It may be impossible to distinguish between early cancerous changes and mastitis.

Excepting in cases of chronic mastitis, all tumors of the breast should be promptly removed and examined microscopically. This should be done not only for cosmetic reasons but to settle positively the question of malignancy. By making the Thomas incision and lifting the breast from the chest-wall many of the tumors can be removed, leaving only a scar in the crease at the lower border of gland, where it is unseen.

117 Montague Street.

DISCUSSION.

Dr. Russell Fowler stated that formerly the diagnosis between malignant and non-malignant tumors of the breast was easier than it is to-day, for then cases were sent to the surgeon only after they had existed for some time, and were large. Now cases are seen in which the disease has been present but a few weeks and diagnosis is extremely difficult, and in some cases impossible. In all doubtful cases the breast should be submitted to a microscopic examination before proceeding to the formidable operation of taking out the pectoralis major and minor, or the glands of the axilla.

Dr. Burge said that a woman in his practice, now 61 years of age, had three growths, two in one breast and one in the other, that have existed since she was 11 years of age. They have been quiescent for the last few years, but did increase progressively but slowly from the time she was 11 years of age until she reached maturity. Now, one is about the size of a small egg, one is perhaps two-thirds that size, and the third one still smaller. They have pained her slightly from time to time; if fatigued, she feels them, but she will not consent now to have them removed. The tumors are nodular, quite firm, and, though they do at times give her a little inconvenience, they are evidently benign.

Double Suppurative Mastitis in a Primipara at the Sixth Month of Gestation; History.

George A. Williams, M.D.

In October, 1895, I was called to attend Mrs. R., aged 22, a primipara, in the sixth month of gestation. On examination I found her to be suffering from an inflamed condition of both mammary glands. They were very much enlarged, sensitive to touch, and fluctuating on palpation. Her temperature was then 104°. She gave a history of having exposed herself three weeks previously to cold, having been seated for a time upon the damp ground. Up to that time she had been in the best of health.

Following the exposure a general catarrhal bronchitis developed, with a sensitive condition of the deeper portion of both breasts. Chills, fever, and sweats accompanied this condition. This state of affairs existed for four weeks before I was consulted. A physician had been consulted a few times during the beginning of the trouble and treated the case as a simple mastitis, with soothing lotions. Finally, the patient developed a general septic condition, with delirium, and I was then summoned to attend her.

An examination of her family history revealed no taint. Her husband was tubercular.

Under an anesthetic I immediately incised both breasts and evacuated at least a quart of pus. Although the amount of chloroform administered was very small, the patient collapsed, and was revived with difficulty.

Dr. Fairbairn saw the case with me a few days after the operation, and advised the vigorous use of stimulants and supportive treatment. She made a good recovery in four weeks, went on to full term, and gave birth to a healthy female child.

Her breasts failed to secrete milk, but gave no further trouble.

In seeking for a cause of the mastitis, I was unable to find any history of infection. Her nipples were sound and presented no abrasions or fissures, through which such infection generally occurs. At this present date the mother and child are strong and vigorous.

419 Hancock Street.

DISCUSSION.

Dr. Brinsmade observed that cases of mastitis in women who have not borne children and even in virgins are seen occasionally. Infection invariably gains access to the breast through the nipple, abrasions of which may easily occur by even the simple rubbing, perhaps, with a rough towel or the early preparation of the nipples of a woman who is about to become a mother. Not infrequently for some months before the expected confinement, either with or without the advice of a physician, a very rigorous treatment of the nipples is commenced, and not infrequently an abrasion is caused, even microscopic in size, through which septic germs gain entrance.

Last summer he had an opportunity to see a case somewhat similar to Dr. Williams', with so profuse a pus-formation in both breasts that it became necessary in her case to amputate the glands.

In the amputation of the mammary glands, or any operations for pus processes in the glands, the method of Thomas is to be recommended. The incision passes through the lower part of the breast, in a curve following the lower periphery of the gland, and dissects it up from the ribs, entirely under the glands but in front of the fascia that overlies the pectoralis. Another incision is then made from beneath over the place that points in the breast, the finger is introduced from the inside and the pockets of pus are broken down and made into one cavity. The superficial wound outside of the breast is then closed by suture and the wound drained from below. In women it is very important that the scar should be as much hidden as possible, and this one, being in the normal fold, is inconspicuous. Drainage, too, being in the dependent portion, is better than from any other portion of the breast.

Dr. Burge inquired whether tight lacing and pressure might account for the condition described by Dr. Williams; the first time a woman becomes pregnant she is very apt to conceal the fact as long as she can from her friends.

Dr. Williams did not think the tight lacing had any special effect on the case. His own impression was that the abscesses developed simply from cold, added to a minute local lesion. The literature of this class of cases is limited. They are rare.

Dr. Brinsmade said that occasionally in maternity hospitals and dispensaries, analogous mastitis developes in new born children which is undoubtedly due to manipulation of the breast by the parent, and is quite as frequent in boys as in girls.

Epithelioma of the Thumb; History; Specimen.

Henry G. Webster, A.B., M.D.

The patient, a man of 73, presented himself in January, 1898, complaining of a diseased condition of the skin covering the dorsum of the metacarpal bones of the left thumb. The condition had been noticed for about two years, sometimes better, sometimes worse, but with a constant tendency to spread. It had been poulticed by his family physician, and pus had been evacuated from a number of points in the affected area. When first seen this was about the size of a ten-cent piece, showed an irregular, broken surface, some points of granulation, at least two sinuses leading to small pus-collections, and was honeycombed under the surface with pus. The portion of skin involved moved freely on the underlying structures. It was tender to pressure.

A diagnosis of lupus vulgaris was made and under cocain the growth was thoroughly seared with the cautery-knife, care being taken to go wide of the margins and deep into healthy tissue. After dressing it for two weeks it became evident that return of the condition was inevitable, and in February, 1899, Dr. Pilcher, again under cocain, thoroughly dissected out all diseased tissue down to the extensor tendons, leaving a granulating surface as large as a quarter dollar. Healing was slow, but granulations gradually closed in the spot, until in September a firm cicatrix with a single point of horny epithelium resembling a "corn" was all that remained. This came away after a short time, and the result was good, save for the stiffness due to tendon involvement by the scar.

On January 1st the patient reported at my office with a nodule in the scar, and a second one, apparently no larger than a pea, near the base of the metacarpal bone at its palmar aspect. No further extension could be determined. After some demur amputation of the thumb was consented to and on January 29, 1900, I removed the thumb, as here presented. Extensive infiltration had occurred almost to the annular ligament, and it was at once appreciated that amputation through the forearm was imperative. Not possessing the patient's consent for so radical a step, operation was limited to thorough dissection and curetting of all suspicious exposed parts. The skin edges were drawn together, leaving a surface about three-fourths inch across, which was grafted with egg-membrane. Primary union resulted, but five weeks later extension had appeared, and further operation has, so far, been refused.

This specimen is presented to emphasize the necessity for careful microscopic examination of all tumors, especially where the importance of the structures involved inclines the surgeon toward conservatism. In the light of subsequent events it seems unquestionable that elements of epithelioma must have been originally present and awakened to increased malignancy by the repeated operative interference, though the gross appearance of the primary growth carried no suggestion of such a condition.

90 Halsey Street.

[NOTE: Extension of the growth progressed rapidly, and death occurred in September, 1900. No further operative procedure was permitted.]

THE
BROOKLYN MEDICAL JOURNAL

Published Monthly under the supervision of the Medical Society of the County of Kings.
ENTERED AT BROOKLYN, N. Y. POST OFFICE AS SECOND CLASS MATTER.

EDITOR IN CHIEF: JOSEPH H. RAYMOND, M.D.
BUSINESS MANAGER: F. D. BAILEY, M.D.
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CHARLES D. NAPIER, M.D.

VOL. XIV. No. 12.
WHOLE No. 156.
BROOKLYN, N. Y., DECEMBER, 1900.
Single copies 25 cents
$2 a year, in advance

ORIGINAL ARTICLES.

No paper published or to be published elsewhere as original will be accepted in this department.

ARTIFICIAL ILLUMINATION.

BY L. A. W. ALLEMAN, A.M., M.D.,

Read before the Medical Society of the County of Kings, May 17, 1898.

In the complex structure of modern civilization, builded by discovery, invention and adaptation, one upon the other, and mutually dependent and necessary, artificial illumination stands as a part of the very foundation.

It is imperative, under present conditions, that the working day should suffer no interruption, and this demand has been met by a multitude of devices for the production of light, which are marvels of convenience and economy.

When we consider the wonderful progress in this branch of the useful arts, and the incalculable economic value of these added working hours, it may seem unreasonable to criticise our present methods of lighting. A comparison of the tallow dip of our fathers with the modern searchlight should perhaps abash the critic and would assuredly do so, did we not take a broad view of the field and observe that progress has been along but one line, *viz.,* the production of candle power. We have striven to produce light, and we have made a most noteworthy success of it, but the hygienic quality of the light produced, its location and distribution, are matters which have received no serious consideration.

It is difficult to understand why this eminently practical age should have thus recklessly endangered one of its most valuable assets, for I believe, despite the habitual disregard of all rules of hygiene in the care of the eyes, men in general do hold the preservation of vision as one of the really important considerations of this life; how, then, can we explain the fact that, in the matter of artificial illumination, we have made much less progress than in the field of general hygiene?

To answer this question we must glance at the history of the development of artificial lighting.

It is but a comparatively short time since the introduction of modern methods of interior illumination. Gas has come into general use within the last half century, and electricity is of very recent date. As has been pointed out by Birchmore,* the first use of gas for house lighting was in the ball-rooms of great houses, and the most convenient way to install this new light in an old house was to run the piping under the floor of the room above and drop a chandelier from the center of the ceiling. As the light was a novelty and an evidence of wealth and magnificence, this served the double purpose of convenience and display. The fashion was at once taken up by the would-be grand, and new houses were equipped with gas after the model of the grand establishment.†

There was, of course, no desire to hide this light under a bushel. It was put where it would be most in evidence, and it is an interesting question, as suggested by Dr. Birchmore, whether our modern high ceilings have not been determined by a desire to provide a suitable location for the pendant chandelier.

Starting thus as a fad of fashion, the obstrusive chandelier, stuck directly in front of our eyes, where it occasions the maximum of discomfort and the minimum of convenience, has fastened itself upon us. With different light sources it has undergone adaptation, but seldom improvement. It is sometimes made less objectionable in appearance, when not in action, but its modifications offer us at best but varieties in our annoyance.

We grow accustomed, however, to habitual discomforts and seldom realize how much of a nuisance this perversion of illumination is, until we are shown the contrast offered by a proper location and protection of the light source.

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* *American Gas-Light Journal*, Nov. 29, 1897.

† Birchmore cites some curious old advertisements of "New Houses which are lighted exactly as that of Lord X———'s country house, etc."

It is by no means in house-lighting alone that we suffer from improper illumination. Street and show-window lighting are barbarous in the extreme. No one will for a moment dispute the proposition that the desired object of the expenditure is to make objects visible, yet what is actually done is to exhibit light. The rational supposition is that the merchant wishes to attract the passer-by to the display in his window. What does he do? He hangs several arc lights before the window, just above the eye line, and sticks a multitude of clear glass incandescent globes or a row of incandescent burners on the inside. The result is that all one sees in passing is a confused mass of light, and unless particularly interested in finding something no one will take a second look, and even should he do so the chances are that the dark spots and horseshoes projected upon any object at which he looks will prevent his seeing and appreciating the display. The merchant may be indifferent to the fact that these dark spots are foci of retinal exhaustion, "burned out holes," as it were, in our eyes, but it would seem evident to any rational being that, were these lights shielded by reflectors, thus shutting off the direct rays from the eyes of the shoppers, and directing the light upon the exhibit, a much more effective display would be obtained and the bill of lighting reduced from one-half to two-thirds.

Showing light conservation by the use of reflectors—

—— // ——

From Cohn—

Light source 15 normal candle flame—

One metre below flame.

Meters aside from flame	0	0.5	1	1.50	2
With no shade—	1	3	4	2	1
With lacquered shade.	9	9	6	2	1
With polished shade—	64	15	6	2	1

CHART I.

The value of reflectors in conserving and rendering effective light units seems to be little understood and appreciated, as will be seen from the subjoined table from Cohn (see Chart I.); their use is equivalent to an enormous multiplication of the light units, and the disregard of this fact by shrewd money-making tradesmen shows how deep is the ignorance of the first principles of correct lighting.

Street lighting is, I confess, a difficult problem and one which has as yet found no entirely satisfactory solution.

The present methods are, however, about as bad as they can possibly be made. Lights of very high candle-power and of great concentration are largely used. No attempt is made to shield the luminous point from the eye, and the lights are frequently hung in such a position that one cannot avoid looking distinctly at them.

I quite agree with Dr. Standish* that "it is a most outrageous thing that we should permit in our streets these electric arc lights to be hung almost directly in front of the eyes of the people as they walk along. When they are put upon a high pole, twenty to thirty feet above the ground, it is not so bad; but when you come to place them in front of a shop window, not more than three or four feet above your head as you walk along, I say that it is an injury to everybody that walks upon the street at night."

The unprotected arc light, particularly when elevated but slightly above the eye line, is a public nuisance which should be abated by the Board of Health.

Yet the electric arc light could undoubtedly be made one of the most valuable agents in street lighting by the employment of some simple device for shading and diffusion. Economy will always be the determining factor in street lighting, but better location, shielding and diffusion can all be obtained by municipal ordinance, and should be a matter within the province of the Health Board.

The illuminants† at our command are oil, gas, incandescent gas, incandescent and arc electric light, acetylene, and possibly, in the near future, Tesla's tubes.

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* Myles Standish, M.D., "On Light," *International Dental Journal*, June, 1896.

† Since the presentation of this paper, the increased use of *Incandescent Gasoline* entitles it to a place among the possibly available light sources. The simple gasoline flame needs to be mentioned, only to be condemned, but the incandescent burner should produce, with gasoline, a light having the same qualities as incandescent gas, and available in localities where illuminating gas is not attainable.

Incandescent Petroleum (Dudley, *Progressive Age*, Dec. 1, '97), is also in use as a high candle-power light source and should by adaptation be made available for house lighting and for portable lamps. Its great economy recommends it, and the light is of good quality.

The following table, which gives the comparative commercial cost of various illuminants, is taken from *Progressive Age*, Dec., 1897, and has been amplified by Mr. Dudley:

TABLE OF COMPARATIVE COST OF COMMERCIAL LIGHTING.

Number of Light Sources.	Number of Light Sources.	System of Lighting.	C.-P. per Standard Unit.	Total C.-P. of all Light.	Assumed cost, and consumption, rate per Unit.	Cost @ 10 Hrs. @ Unit.	Cost @1000 C.-P. Hrs.	Cost per Candle-Power per Hour.
1		Electric Arc-Light.	1000	1000	$80. @ Yr. of 3250 Hrs. @ 446 Watts.	$ .25		
	63	Incandescent Electric.	16	1000	$ .01 @ Hr. @ 55 Watts.		$6.25	$ .0006250
1		Incandescent Electric.	16	16	$ .01 @ Hr. @ 55 Watts.	.10		
	63	Illuminating-Gas jets.	16	1000	$1.25 @ 1000 cu. ft. @ 5 cu. ft. @ Hr.		3.92	.0003920
		Illuminating-Gas jets.	16	16	$1.25 @ 1000 cu. ft. @ 5 cu. ft. @ Hr.	.063		
	63	Illuminating-Gasoline jets.	16	1000	$ .50 @ 1000 cu. ft. @ 8 cu. ft. @ Hr.		2.50	.0002500
1		"Petrol-Arc" Light.	1000	1000	$ .07 @ Gal @ ¾ Gal. @ Hr.	.053		
	40	Acetylene-Gas jets.	25	1000	$10 @ 1000 cu. ft. @½ cu. ft. @ Hr.		2.00	.0002000
1		Acetylene-Gas jets.	25	25	$10. @ 1000 cu. ft. @ ½ cu. ft. @ Hr.	.05		
	16	Incandescent Ill'g-Gas lights.	64	1000	$1.25 @ 1000 cu. ft. @ 3 cu. ft. @ Hr.		.58	.0000575
1		Illuminating-Gasoline jets.	16	16	$ .50 @ 1000 cu. ft. @ 8 cu. ft. @ Hr.	.04		
	50	Center-draft Kerosene lamps.	20	1000	$ .07 @ Gal. @ 1-80 Gal. @ Hr.		.44	.0000438
1		Incandescent Ill'g-Gas lights.	64	64	$1.25 @ 1000 cu. ft. @ 3 cu. ft. @ Hr.	.038		
	16	Incandescent Illuminating-Gasoline lights.	64	1000	$ .50 @ 1000 cu. ft. @ 5 cu. ft. @ Hr.		.39	.0000387
1		Center-draft Kerosene lamp.	20	20	$ .07 @ Gal. @ 1-80 Gal. @ Hr.	.009		
	1	Electric Arc-Light.	1000	1000	$80. @ Yr. of 3250 Hrs. @ 446 Watts.		.25	.0000246
1		Incandescent Illuminating-Gasoline light.	64	64	$ .50 @ 1000 cu. ft. @ 5 cu. ft. @ Hr.	.003		
	1	"Petrol-Arc" Light.	1000	1000	$ .07 @ Gal. @ ¾ Gal. @ Hr.		.05	.0000053

It is impossible here to enter into a detailed consideration and comparison of the various light sources. No one is preëminently adapted to all situations or fulfils all the requirements of cost, brilliancy, steadiness and quality. Yet each has some special advantage, and a selection must be made in any case after a consideration of all the requirements.

Many of the evils of artificial illumination from which we are now suffering are common to all light sources; they are not inherent defects, but are faults of application; these we will touch upon later. We will first consider some of the good and bad features of the various light sources in common use.

The electric arc light has little to commend it save its brilliancy, and is the most objectionable illuminant in use. The electric arc presents a luminous point, from which is emitted an enormous candle-power; this concentration produces the maximum contrast effect when the light falls upon the retina, and a sharply defined area of retinal exhaustion. If, after looking at an arc light, or, for that matter, at a clear glass Edison globe, the eyes are closed for a moment one will see an image of the light as a dark spot before the eyes, which persists for some time, and after passing through a variety of colors fades away. This means that at the spot upon which this concentrated ray has fallen the delicate and complicated photo-chemical processes which have to do with vision have been interfered with. It is the same phenomenon as that observed after looking at the sun with the unprotected eye, and is attended with serious danger to the choroid and retina. Beside this, we meet clinically with the condition called by the French *L'ophthalmie electrique,* due to the exposure of the eye to the arc light, which is characterized by more or less pronounced conjunctival and corneal irritation. The patient complains of the sensation of a foreign body in the eyes, pain in eyes and head, photophobia and lachrymation. In many plants, when such exposure is necessary, the use of the protecting glasses (preferably dark gray*) is compulsory. This clinical picture is also produced by the exposure of the eyes to the sun's rays under certain conditions, by lightning flash, and by the Roentgen-ray. Chalupecky,† in considering this subject, calls to mind the investigations of Wedmark, who showed that these symptoms were not produced in like degree by exposure to all the rays of the spectrum, but were chiefly chargeable to the ultra-violet. The arc light, he contended, rich in the short waves, produces the symptoms, and the immunity obtained by protecting glasses is due to its relative impenetrability. Lightning is also rich in short waves and produces similar ocular disturbance, while the cataract previously ascribed to the cramp of the ciliary muscle is attributed by Wedmark to the action of the light upon the lens, by which the ultra-violet rays are absorbed and transformed.

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* Ljubinski, *Archives of Ophthalmology*, vol. 19, p. 349.

† *Centralblatt f. Augenheilkunde*, Aug. and Sept., 1897.

Sunlight, which is ordinarily poorer in the short waves, in a high altitude with low temperature (as for example, in the Arctic region) becomes richer; while reflection from the finely powdered snow still farther increases their relative preponderance.

Under these conditions snow-blindness is produced with symptoms similar to those just cited. Wedmark also notes the similar effect upon the skin produced by exposure to different light sources, and believes the so-called "Erythema Solare," and the dermatitis found among those exposed to electric light, and after lightning stroke, to be identical in origin. Chalupecky also cites Ogneff, who reproduced with animals the condition under which some people are obliged to work, and by exposure of the eyes to a powerful electric light produced conjunctival inflammation and corneal ulceration.

Accepting, then, the short wave as the causative factor in the production of the nutritive disturbance, Chalupecky proceeds to show the similarity in the action of the Roentgen ray, a very short wave length ray, both on the eye and skin. He produced in animals a similar inflammation and destruction of the anterior portion of the eye, and demonstrated its extreme danger and the fact that its effect is cumulative.

These experiments have, I think, been sufficient to convince us that the arc light, when unprotected, is unsafe, and to suggest that any light source rich in short wave length rays is probably dangerous.

The coal-oil lamp has much to recommend it, particularly as a reading light. Its portability insures the greatest advantage of position for the particular work upon which one may be engaged, and it readily lends itself to reasonable treatment by shades. The light is steady and the color fairly good. The heat and vitiation of the atmosphere are objections; but, generally speaking, the student's lamp is the best, always obtainable, cheap, and convenient reading light at our command.

The open gas flame, of whatever kind, should never be tolerated for interior illumination. The constantly varying gas pressure and the air currents make it flickering and unsteady.

The argand or round burner is somewhat better, but is far from satisfactory in quality and steadiness; pressure regulators, either at the meter or in the burner itself, are largely used and result in some improvement, but the simple, flat flame and round burners should be replaced by more economical and satisfactory burners. The regenerative burner,* particularly in the form of a ventilating light, recommends itself to me, and can, I believe, be made applicable to the incandescent burner.

In this class of burners the heat of the flame is used to raise the temperature of the gas before ignition, which should make for economy, and another important end is subserved by utilizing the burner as a part of a ventilating system. It is placed high in the room, and a flue is led off from above the burner, by which not only the products of combustion of the flame itself, but also the superheated and vitiated air of the room is pumped out. This, of course, requires special construction, but in new houses both the artistic and sanitary requirements could in this way be satisfactorily met.

Wherever gas is used, the most satisfactory method of its employment is by the *incandescent burner* which is popularly known as the Welsbach or Auer light, from Carl Auer von Welsbach, who first introduced a cone or mantle made incandescent with a Bunsen flame. Many modifications of this burner are in use, but they are similar in principle. The chief recommendations of incandescent gas as a light source are its economy, steadiness and quality. In comparison with the ordinary flat burner we should get eight times as much light for our expenditure, as the light is due to incandescence and not to the flame, irregularities in gas pressure are largely taken up by the burner, while the more perfect combustion gives greater cleanliness. The quality of the light is variable and is largely dependent on the mantle. We can all remember the ghastly color of the first Welsbach lights, and if we notice a half dozen windows in succession thus lighted we will observe even now wide differences in quality. This difference is due to the proportion of the rare minerals put into the mantles.

For example, cerium raises the candle-power, and varying effects are produced by the interaction of the vibrations produced by different combinations of the ingredients. The age of the mantles, too, affects the light-giving qualities. Wherever these lights are in use they should be regularly inspected by some competent person to see that the drafts are not dust-choked, the mantles perfect and not smoked, and, in short, the burner kept at its full efficiency. When this is done, the economy effected by its use will enable us to obtain with it the proper quality of light, by shades and reflectors, with very little if any excess of cost over our present methods of lighting.

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* "Gas burners, etc.," Gerhard, 1894.

Incandescent electricity is, in some instances, a good light source. It should never, as I have previously shown, be used in such a way that the carbon filament is exposed to the eye. In most locations it gives a fairly steady light, but it is relatively expensive. Its chief virtues are that it consumes no oxygen and gives very little heat. For indirect lighting from a cove and domed ceiling its use is imperative.

Acetylene[*] is a light source with which we are destined to become more familiar should it ever be allowed a fair competition on its merits. It should be one of the least expensive of all light producers. It can be made perfectly safe, despite the outcry against its danger, and is a light of superior quality. It is said[†] to give the nearest approach of any artificial illuminant to true sunlight color values, which would highly recommend it in industrial plants and shops where the colors are important. It is a highly concentrated light, and should, on this account, never be used save with proper diffusion.

Vacuum tube lighting is one of the startling promises which Tesla has given to the world, but it is as yet impossible to say whether or not it will become a commercial possibility. The fairy glow lamps are said to be very decorative, and the idea is certainly an attractive one. I have never seen the light, but I am inclined to question its desirability as a light source without material modifications. It probably runs too much to the short-wave end of the spectrum to be hygienic. An interesting personal experience of lighting by Tesla's tubes is given in a paper by F. N. Morton.[‡] He says: I went to see the chapel, and found that, as far as the color was concerned, the light did very closely resemble daylight, although it had a bluish tinge. There was but little shadow cast, as was claimed by the inventor, Dr. Moore, who first attempted any lighting on a considerable scale by this method. This absence of shadows, however, was due purely and solely to the placing and position of the illuminated tubes in the room so that the shadow cast by one light was illuminated by a number of others, and not at all to the light from this source being able to deviate from a straight line and curl around behind an obstructing medium. As far as the quality of the light is concerned, I have no hesitation in saying that the light was most trying to the eyes. I remained in the room for ten or fifteen minutes, and even for that short time could feel the fatiguing effect; and when I closed my eyes I could see every tube almost as distinctly as when looking directly at them, showing complete exhaustion of the retinal purple, and consequent injury to the eyes. An hour after leaving the building my wife, who was with me, said that her eyes were just recovering from the effects of the light in the chapel, and the next day she complained of discomfort, which she attributed to the same cause. There was a slight, continual shimmer or vibration in the light, but the same is more or less true of the arc light, and I hardly think it sufficient to account for the distress caused by this method of lighting. What improvement may be made in the future I do not know; but at present the method of lighting by Crooke's tubes cannot be said to be a success as far as being an agreeable or restful light is concerned."

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[*] See "Lighting by Acetylene," Gibbs, Nostrand Co., N. Y., 1898.

[†] *Wochenschrift für Therapie und Hygiene des Auges*, Nov. 24, 1898.

[‡] Morton. "Another View of Interior Illumination," Am. Gas Light Assn., 27th Annual Meeting.

There are certain general principles as to the location and diffusion of light which are of the utmost importance, whatever light source is employed in interior illumination.

The ideal condition, the normal illumination which we should endeavor to imitate, is the daylight condition, which is one of nearly perfect diffusion.* The source of light is not visible to the eye. The light, diffused by clouds, is admitted through the windows and is still farther diffused by all objects in the room which it illuminates. The light is nearly equal in all parts of a properly lighted room, and yet the slight variation in reflection gives the faint shadows which are so important in an estimate of form and perspective. Now how near do we approach this ideal in our every-day experience? We suspend just above the eye line small, intensely luminous points which are visible from all parts of the room and which must of necessity produce foci of retinal exhaustion. From the chandelier, the light radiates into the room with no attempt at diffusion and with an intensity diminishing according to the law of inverse squares as we approach the objects which we desire to illuminate (see Chart II.). Here again we are exhibiting light. Surely, were we endeavoring to render objects visible by illumination we would not put a blinding light directly in front of the eyes, at a point where nothing is to be seen, and in a position where it will give the least illumination to our household gods, which we, presumably, wish to display.

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* Sufficient and properly located, unobstructed window spaces are of course presupposed, to obtain these conditions.

Theoretically, no object in a room thus lighted is ever seen in the true proportion, save in a very limited area directly under the chandelier; practically this does not obtain, some diffusion is obtained under the present conditions, but the deep shadows and hard contrasts of one-sided lighting cannot but sacrifice much of the detail and proportion, and there is undoubtedly an enormous loss in artistic efficiency of our house furnishings entailed by this improper lighting. To a greater or less extent all objects are seen under a one-sided illumination, a graphic example of which is familiar to us all in flat flash-light photographs.

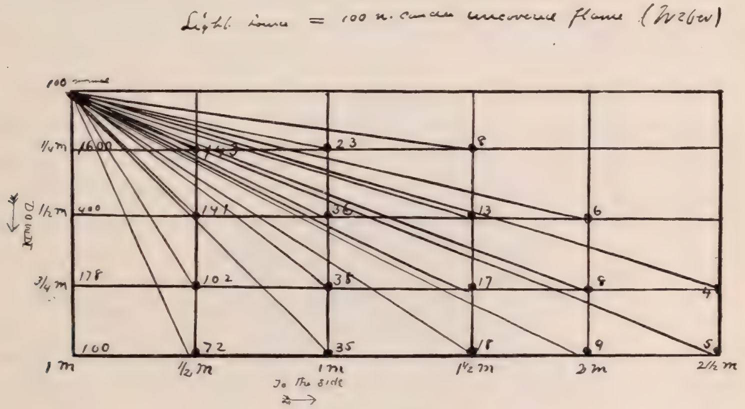

CHART II.

The whole problem, then, is one of approximating daylight conditions, and to this end there are two essentials. The concealing of the light source, and the diffusion obtained by making the walls, ceilings and furnishings all act as light distributors. This result is obtained by some modification of what is known as "indirect lighting." The first practical demonstration of indirect lighting with which I am familiar was made at the Paris Exposition in 1881, and it is now in use in several foreign schools, but has not been used to any considerable extent in this country. In its crudest form, indirect lighting may be obtained from any existing light source by placing underneath it an opaque reflector which shall conceal it at all points in the room below the eye line. From the upper part of the walls and ceiling the light is reflected and the modification thus obtained by the various reflecting surfaces do away with many of the objectionable features of the light source.

The first impression on entering a room thus lighted is that the illumination is insufficient, but this is due to the fact that one misses the accustomed glare and the hard shadows; but when objects in the room are looked at they are found surprisingly visible, and one is able to read with comfort in a room which seems at first but dimly lighted.

The quality of illumination is, of course, a separate problem and one to be determined in each room by its requirements, but it is, in any instance, only a matter of expenditure. This suggests a practical objection to indirect lighting, *i. e.,* the question of expense. In so vital a matter as the hygiene of the eye, I feel that it would be very poor economy to use improper lighting methods, even were the better methods relatively more expensive; but I do not believe that, in the main, indirect lighting will entail any additional cost. If a room is to be lighted at all, at least one light outlet must be used, of which the gas flame may be taken as a standard and as a minimum; for all purposes of general illumination this room can be properly lighted by the same gas flow by substituting for the open flame burner an incandescent burner and placing beneath it an opaque or translucent shade.

When a reading or working light is desired in any part of the room an individual light may be added for this purpose. This really involves no additional expenditure of light, for an individual reading light in addition to the general illumination is a hygienic necessity under present lighting methods. When it is desired to produce sufficient light for reading in all parts of a large room, as, for example, in a school-room, I should have been inclined to grant the necessity of a large expenditure, but the problem was carefully worked out by two German observers,* and the actual demonstration made that, by the substitution of incandescent for argand burners, proper lighting could be obtained at a reduced cost.

When recommending such a radical departure as a revolution in home lighting we have to combat the natural dislike for innovations, and at the same time be able to offer some desirable substitute for the shades and fixtures which have been brought to a high plane of artistic perfection. When we are given a new house in which to install a lighting system, the problem of combining hygienic lighting with artistic effect is much simplified. In some situations a domed ceiling and a deep cove with incandescent electric bulbs concealed in the cove give a very beautiful effect. But I do not consider indirect lighting from the ceiling as the best method either for effect or comfort. Side lights, with numerous outlets, and a consequent multiplication of the distributing centers should be sought, and on this account we require a smaller unit than that in common use. A twenty-five candle-power mantle or a ten candle-power electric could be used to better advantage. The side lights should be covered by reflectors which protect the eye from the light source and direct the light against the wall and ceiling. These reflectors may be made as elaborate and as artistic as desired, and can be more easily brought into harmony with the decorations and furnishing than can a central chandelier.

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* See *Progressive Age*, Feb. 1, 1898.

In dealing with old houses and attempting to adapt pre-existing fixtures to the indirect system, the chief objection is the ugly effect of the reflector. I have made several experiments in this direction, and believe that such a remodeling can be effected in nearly every instance at a trifling expense and with satisfactory results both from an artistic and hygienic standpoint. I must admit that my first attempts with opaque shades were far from artistic, but by modifying my reflectors to harmonize with the fixtures, both ends were subserved. It is not necessary in all instances to use pure indirect lighting. For example, in a sitting-room 15x16 feet, with two side brackets, I have placed on one fixture, an inverted 10-inch shade of milk glass, which gives both direct and indirect light. The light source is so large that it is not unpleasant, and the room is sufficiently lighted for reading, by one burner. Again, in a room with a wrought-iron central chandelier wired for incandescent electric lights, I have

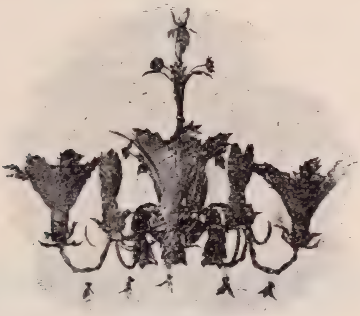

Fig. 1.

followed the lines of the chandelier in a reflector, blackened on the outside, which completely hides the light, and gives pure indirect lighting. (Fig. I.)

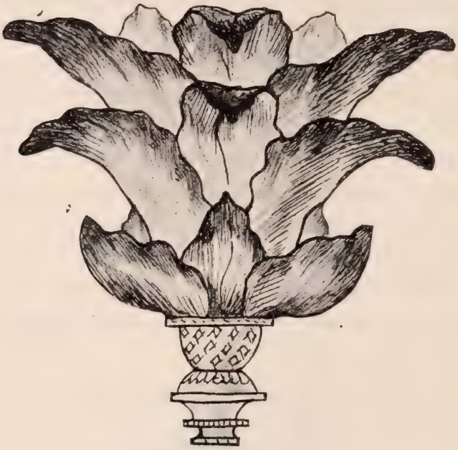

FIG. II.

For the dining-room I have made a reflector somewhat on the lines suggested to me by Mr. J. G. Dudley, *i. e.,* of making

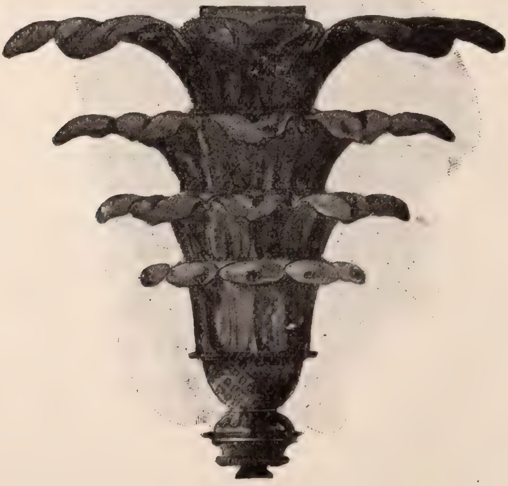

Fig. III.

an artificial ceiling just above the burner. A cup is placed below the line of the mantle, and within curved and corrugated reflectors directed out and down catch the light from the inside of the cup and at the same time from the inner surface reflect to the ceiling, and to the reflector above. (Fig. II.)

While this reflector does not give pure indirect lighting, yet it is very effective in light distribution, and seems well adapted, with modifications, to many situations. The next point to determine was whether its construction was feasible, commercially. I consulted the Mitchell Vance Company, who manufacture fixtures of all kinds, and they very kindly turned me over to their designer, Mr. R. V. Barrows, who undertook to design a shade on the lines which I suggested which would be equally pleasing to the eye when on and off duty. The result of his efforts is shown in Figs. III. and IV.

The outer surface of the lower ring is enameled in green, and the others in white. The lighting efficiency of the reflector is surprising, and demonstrates the fact that a man who thoroughly understands his business can do better than an amateur. This reflector is, beyond doubt, more artistic than mine, and has the added advantage of being commercially obtainable, yet I cannot help regretting that Mr. Barrows could not have utilized the inverted cup at the base, as I believe it would have increased the available candle-power.

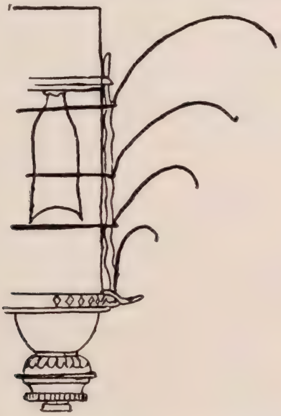

Fig. IV. section of shade.

Next to the location and screening of the light source the tone of the decorations in a room is to be considered. We have practically no white reflecting surfaces, and in determining the light required in any given situation, we must take into account the great difference in the lighting value of different colors,* as well as the relation between color of light source and reflecting surfaces. Any surface only gives back that portion of the light with which it is in harmony. To take an extreme example: If a room tinted a pure blue should be lighted with a red light, the room would be practically dark. It is, therefore, evident that the light source should be selected which most nearly approaches sunlight, both for the advantage in the amount of reflected light and to preserve in the room the greatest possible similarity in effect, under daylight and artificial lighting conditions.

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* "Proceedings Am. Gas Light Assn." 1896.

This disregard of harmony is undoubtedly responsible for some of the ghastly lighting effects with which we meet and which we are unable at first to explain. Shades are often selected because they look desirable when seen on a lamp in the show room, or because, when a light is thrust into them by a salesman, the resultant tone is effective, but when they are put in place in the home, a blight seems to have fallen upon the family and its belongings. There is a sickly, unnatural look to everything, simply because the color of the shade is at war with its surroundings.

This subject is capable of almost indefinite expansion, but I have striven only to make it apparent that there is a wide field of usefulness open to that infant specialty, *viz.*, expert lighting.

The lighting engineer is as essential to a properly appointed house as is an architect; a layman knows absolutely nothing of these matters and very little has been written on the subject of hygienic lighting for his guidance; his only resource, therefore, is to call upon a scientifically trained engineer, not a man who has some particular method of lighting to exploit, who will come into his house and make a careful study of the situation there presented. Each house, each room is a special problem, and it is only by careful consideration of these conditions and of the habits and requirements of the individuals who are to use the light, that the best results can be obtained.

All new work should be so installed that the fundamental requirements are fulfilled, and the adaptation to the individual necessities should follow after the house is tenanted. It is not, however, always convenient to build new houses, and if ideal conditions are not obtainable we must not forget that in old houses, without structural changes, the lighting is capable of a most surprising improvement with a minimum outlay of time and money.

The one point which I had chiefly in mind when undertaking the preparation of this paper was the determination of the quality of light best suited to the eye, and the elements which go to make up that proper quality.

I was much disappointed to find that little work had been reported in this most important field, and I endeavored to obtain, experimentally, some reliable data upon which to generalize, but the results were by no means satisfactory.

Experiments with retinal fatigue as a measure of the hygienic quality of light gave some promise, but the source of error in this, as in all other attempts, was the wide variation in results, which arose from individual peculiarities, and I have little expectation of arriving at any conclusions in this field which will be broadly applicable. The effect of any given light differs so much in each subject, and in the same subject is so modified by conditions which are not constant, that our ideal light quality must be subject to frequent revisions.

For example, with advancing age, certain changes take place in the crystalline lens—it grows smoky sooner or later; this interposes between the retina and the light source the equivalent of a smoked glass which filters out certain rays, thus altering the quality of the light.

Myopia is another modifying influence; the long eye of the myope does not focus the rays of light on the retina, and the varying refrangibility of the different rays which make up the light undoubtedly yield a varying resultant according to the refractive condition, from the same light source.

Again, a far-sighted eye does not receive the same rays with as without a correcting glass, and any pathological condition affecting the transparency or density of the media would introduce an additional source of error.

In conclusion, a suggestion as to the arrangement of a reading light.

When a room is sufficiently lighted by the indirect method, reading is possible in all parts of the room, but where this ideal condition is not obtainable the best arrangement for reading is an overhead light, preferably screened by a reflector underneath, and a desk or table light with an opaque shade which will protect the eyes and throw the light down upon the book.

It is a common error to read by a single light which is thrown upon the book while the room is in nearly total darkness. The brilliancy of the page is supposed to be all that is necessary. A momentary consideration of a well-known fact of retinal physiology will show the reason for the discomfort thus occasioned.

Retinal sensibility increases rapidly in the dark; on entering a comparatively dark room nothing is seen, but in a moment objects begin to be visible. The sensibility increases most rapidly at the moment of entering the dark room, and proceeds more and more slowly until the limit of sensibility is reached.

When reading by a single light the room presents practically the dark-room condition; all the retina which does not receive the image of the paper is attuned to darkness. When we look up for a moment, the eye instantly makes the adjustment to the room lighting, and when the brilliant page is again looked at it is almost as dazzling as the sun, the contrast is so striking. No one would think of reading in the direct glare of sunlight. We all appreciate that diffused daylight is far preferable; yet from the frequency with which I find this condition reproduced by a reading light, the fallacy must be widely held, and I would lay especial stress upon this point. An insufficient reading light is less harmful than the extreme contrast of a too bright light in a dark room. If only one light can be had, it is better to use a translucent shade and let the light shine in the eyes; it will do less harm than the green reflector delusion.

With a proper quantity and location of light for reading the quality of the light must be determined by individual necessities. In practice, I advise those with sensitive eyes to procure a skeleton shade, and cover it experimentally with a succession of tissue papers in delicate tints, till the one is found which proves most acceptable, which is usually a yellow-green.

One of the most startling discoveries which the investigator makes in studying lighting is the wide and sudden variations in daylight illumination.* We are never subjected to such contrasts by any artificial system, they could not be tolerated. Yet we know by experience that the eye is indifferent to these changes, and that they produce no discomfort. The reason for this lies

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* Weber found by daily measurements the following variations in illumination by diffused daylight in summer and winter:

December	579 to 9863 m. c.
January	1592 to 13770 m. c.
June	4519 to 76560 m. c.
July	8414 to 69180 m. c.

Cohn found in four schools in Breslau the following variations in daylight illumination.

in the fact that full visual acuity is reached at 50 m.* candles, and after this point a very considerable increase in illumination has practically no effect on the eyes. This gives us a rough standard of sufficient illumination. As it is not always convenient to have at hand the elaborate instruments for determining candle-power, Cohn† has suggested that we have a fairly reliable photometer in the healthy human eye, and that the illumination by which such an eye can attain full visual acuity is a safe amount of lighting. Cohn considers 50 m.c. a full illumination, and 10 m.c. a minimum. In determining a proper standard of illumination we should always keep in mind that a meter candle has nothing to do with light *production*. In the table (Fig. I.) showing light gain by reflectors, we have but 1 m.c. at a point directly under the light, which is much less than the theoretical amount. The light was intercepted by the fixture, or what not. The only fact which concerns us is the light given back from the page at which we look. A room may have a theoretical excess of light, and by wall tones and improper arrangement of light source the illumination may still be insufficient. You may, then, be entirely indifferent to the number of candles your light gives if you find experimentally, by some delicate test, that you cannot increase your visual acuity by increasing the illumination. The fine crossed lines on process pictures, answer admirably for the test.

In diseases of the eye, as in general medicine, we look more to prevention than to cure, and, as in general disease, it is the bad habit that is most difficult to discover and remove. We can easily control patients when they are seriously alarmed, but it requires a large store of patience to demonstrate to the average

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School.

	In brightest part of room.	*In darkest part of room.*
1 Clear	61 to 450 m. c.	1.7 to 32 m. c.
2	82 to 420 m. c.	1.8 to 68 m. c.
3 Day	189 to 1142 m c.	7.9 to 133 m. c.
4	320 to 1410 m. c.	21 6 to 160 m. c.
1 Dull	4 7 to 235 m. c.	.1 to 22 m. c.
2	2.6 to 182 m. c.	.1 to 10 m. c.
3 Day	121 to 1052 m. c.	3.4 to 60 m. c.
4		4.6 to 38 m. c.

* A *meter candle* (Weber), which is the standard of measurement for illumination, is the luminosity of a piece of paper at one meter from a standard candle, measurements of illumination should be made by a Weber or some similar photometer which determines brightness not candle power, as does the ordinary bar photometer. For a description of the Weber photometer see *Progressive Age*, Dec. 1, 1897, or Cohn, *Lehr. Hyg. des Auges*, p. 852.

† Cohn, *Lehrbuch Hygiene des Auges*.

person that his pet system of lighting causes his asthenopia. I am more and more convinced, however, that a large part of the discomfort and a respectable proportion of the diseases of the eye with which we have to deal are due to improper illumination, and I make it a routine practice to inquire into the lighting conditions under which the eyes are used, with patients presenting unusual retinal sensibility.

HISTORICAL AND CRITICAL OBSERVATIONS UPON THE SURGERY OF THE LIVER AND BILIARY PASSAGES.

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Read before the Medical Society of the County of Kings, May 15, 1900.

The surgery of the liver and biliary passages owes its present state of advancement almost exclusively to autopsical findings, exploratory operative procedures, and animal experimentation. While our knowledge of the clinical signs and symptoms of the surgical diseases of these organs has been largely augmented by careful post-mortem examinations, in spite of advances made along these lines it may still be said that every operative attack upon these organs and their ducts is largely of an explorative character. With the exception of puncture of the liver, almost all of the important operations upon the organs under consideration have been developed comparatively recently, which fact has greatly enhanced our interest in the subject.

Surgery does not advance by leaps and bounds, and this is likewise true of the application of our science and art to the liver and gall-bladder.

Commencing with exploratory puncture in 1684, by J. de Muralto, this simple procedure has been the foundation of our present perfected technic of some of the most delicate, as well as the most important operative procedures within the domain of surgical science.

A complete review of the operative work that has been done along these lines would occupy a much greater length of time than that which is allotted to this paper, and I shall therefore content myself with a simple mention of many of the operations upon the liver and gall-bladder, calling particular attention only to the more important of these, as they present themselves in the everyday work of the practical surgeon.

Parihepatic Laparotomy.—The history of parihepatic laparotomy is the history of exploratory laparotomy, for the obscurity of hepatic affections led to the early employment of abdominal section as a diagnostic measure. With this particular feature of our art the name of the famous Birmingham surgeon, Lawson Tait, will always be associated in the minds of those of us who have lived to know and feel the influence of this brilliant genius. First maligned when he was not absolutely ignored, he survived sufficiently long to realize the appreciation of worth which comes sooner or later to those benefactors of the race whose lines of endeavor are cast in the direction of the alleviation of human suffering and the saving of human life.

The example of Tait has had many followers, and during the last decade, at least, no progressive surgeon has ventured to deny the imperative necessity, much less the justifiability of the application of exploratory abdominal section to the surgery of the liver and gall-bladder.

Thermo-cauterization of the Liver.—The difficulties in arresting hemorrhage from wounds of the liver first suggested the use of the actual cautery. Broca's experience with it does not seem to have been encouraging, although Zeidler obtained good results with it in 1894. More recently cauterization by means of heated air has been suggested by H. Schneider (1898). Snéguireff, in experimenting upon animals has succeeded in arresting the hemorrhage incident to the removal of large portions of the liver, by means of superheated steam. Fiore and Giancola in 1898 repeated these experiments, with some modifications, and established the feasibility of arresting hemorrhage in hepatic resection by means of steam under pressure.

Hepatic Tamponade.—This seems to have been first employed by Heister and Zielewicz in 1887. In 1890 Dalton used it successfully in rupture of the liver, and in 1891 Broca resorted to it in a case of stab wound of the liver. The failure in Broca's case does not seem to have been due to the method. Since 1892 the method has been successfully employed in gunshot wounds of the liver by Brenner and Jelks, Lupo, Poncet, Martin, Zérénine, Zeidler, Zoledziowski, Faure, and others. It has also been employed in hepatic resection, and following curettage (Schmidt, Mikulicz).

Removal of Foreign Bodies from the Liver.—Two such cases have been reported. The first recorded case is that of Dalziel, who, in 1894, in a case of a fistulous opening leading to the liver discovered a needle embedded in the latter and removed it. In the second case, that of Smarth (1895) a recent projectile was removed from the liver in the course of a laparotomy.

Suture of the Liver.—In 1845 Roux advocated suture of the liver before the French Academy of Medicine and related a case of wound of the liver which was made accessible through an opening in the abdominal wall, and which he successfully sutured. His advocacy of the procedure, courageous as it was for that period, was warmly seconded by Gerdy. As an illustration of the slight progress made during the next quarter of a century it is related of Bruns, who afterwards became one of the first to advocate suture of the liver, that, during the Franco-Prussian war in a case of gunshot wound of the abdomen in which a portion of the injured liver was removed by operation he decided against suture of the liver in the case. Postempski in 1886 employed it in experimental resection of the liver in animals; Lins, in the same year, used it in a case of resection of the liver, as did also Tscherning in an operation wound and Loreta in extirpation of a hydatid cyst. Suture of the liver two years later by Garré and Langenbuch, in resection of that organ was done and Pozzi, in the same year, used it in extirpation of a pedunculated hydatid cyst. Since that time observations by fifteen different surgeons are recorded.

When one recalls the physical characteristics of the liver structure many difficulties in the application of the technic are suggested. This is confirmed by the fact evident in the reports of cases, that there have been as many different methods employed as there are operators.

Hepatotomy.—Simple incision for opening an abscess of the liver is an ancient operation. From the time of Hippocrates hepatic abscesses have been opened either by cutting instruments or by cauterization. Celsus, Aristotle and Albucasius speak of opening liver abscesses by the scalpel. These procedures seem to have gradually fallen into disuse. In some instances, however, the track of the puncturing needle was followed by the actual cautery, the needle remaining *in situ* as a guide. In the eighteenth century they were revived by Petit, Morand, etc. Up to 1825 no progress had been made, when Massau called attention to the incision by means of the actual cautery; this has since been known as the method of Récamier, the latter surgeon first employing it formally and systematically in the following year in hydatid cysts. Hydatid cysts, however, had been incised by error, supposing them to be abscesses; before this by Wolcherus, Mailly, and others. In spite of every effort, however, the mortality of the operation remained very high (36 per cent.). Another decline of interest in the operation now took place, and, in 1850, even in India, where the operation was most frequently demanded, non-interference prevailed in cases of suppurative hepatitis.

The real revival of the operation took place following the introduction of antiseptic surgery, when W. Aitkin published a case in 1872, although the credit of the revival is usually given to Stromeyer and Little. In 1887 Zancarol added systematic cleansing of the abscess cavity to the simple incision. To this Fontan added curettage of the interhepatic cavity. At the present time the operation may be said to be firmly established in surgical practice.

The old method of operating at a single sitting was modified to operating in two sittings by Massau (1825) and Récamier (1826). The enthusiasm with which Von Volkmann advocated antiseptic incision in two stages has led to the operation being known as the method of Von Volkmann.

Partial Hepatectomy.—The earliest records of the removal of more or less extensive portions of the liver relate to the operation of Frick, quoted by Nelaton, for the removal of traumatic hernia of that organ. This was followed by MacPherson's case in 1846. Massié in 1852 removed a large portion of the right lobe of the liver for a wound of the organ. Bruns' case occurring in a soldier during the Franco-German war has already been mentioned. In 1875 Roustan had collected 40 similar cases. All the cases prior to Bruns,' with the possible exception of that of Massié, however, were extraperitoneal operations. Following experimental operations upon animals Lins in 1886 extirpated a solid tumor of the liver, and one year later Langenbuch operated in the same manner for a floating lobe of the liver. Since that time more than 100 operations of this kind have been performed.

Partial Hepatopexy.—Fixation of a portion of the liver, and more particularly of a more or less floating lobe of the liver, dates back to 1884, when it was practised by Billroth. The second case is that of Tscherning of Copenhagen (1886). Landerer's case in 1886 was one of coincidental fixation in the course of an operation for suppurative cholecystitis. The same may be said of Terrier's case in 1888, as well as Heussners' in 1889. On the other hand Langenbuch in 1890 made a true costal hepatopexy with remarkable success. In 1891 Körte applied the method of costal fixation to an exceedingly movable lobe of the liver operated upon in connection with a cholecystotomy. Péan in 1896, without giving the details, claimed to have frequently transfixed the liver with silk thread, both for purposes of fixation of displaced and movable small hepatic lobes and to control hemorrhage in partial hepatectomy.

Total Hepatopexy.—Fixation of the liver by operative interference was first proposed by Kisbert in 1884, this author proposing to suture the liver to the edges of the peritoneal wound, as in typical nephropexy. Lesser proposed, in addition to the suturing, to tampon the abdominal wound with gauze, in order to obtain firm adhesions. The operation has been done in upwards of 30 cases. Subhepatic peritoneoplasty for the formation of a horizontal and transverse subhepatic artificial serous partition for the cure of hepatoptosis was proposed and carried out by Péan in 1896.

Extraperitoneal Biliary Exploration.—In 1896 H. Morris made radiographic studies of biliary calculi in comparison with renal calculi. These were repeated in 1897 by Bugut and Gascard, of Rouen. In the same year Gilbert, Fournier, and Oudin made some radiographs of biliary calculi. These studies, however, were of but little use, since they were made upon calculi outside of the body. In 1899 Guillemin published radiographs, executed by Bourgade La Dardye, of patients suffering from calculous cholecystitis. Beck of New York has likewise attempted to reveal the presence of biliary calculi by means of the Roentgen rays. The work of Abbe of New York deserves the highest commendation in this connection.

Passing rapidly in review a number of operations upon the liver and gall-bladder of less moment, such as intrahepatic injections; hepatopexy with laparoplasty; catheterization, insufflation and drainage of the biliary passages; lithectomy; exploratory incision of the gall-bladder and its accessories and cholelithotripsy; and including the ancient observations of atypical cholecystotomy in two stages (Stalpart van der Wiel, 1687), in which the first stage, that of the formation of adhesions has been accomplished by nature, and atypical puncture under the same circumstances, which last-named operations have probably exerted a great influence in the development of the typical procedures afterward brought forward, we pass to the consideration of some of the more important of the operative interventions upon the gall-bladder and biliary passages.

Cholecystotomy.—The operation of opening the gall-bladder for exploratory purposes or for the removal of calculi, followed by its immediate closure, only dates back to 1883, when Spencer Wells first conceived the idea. The first operation, however, was performed by Meredith, in the same year, in the presence of Spencer Wells and others. Since then the procedure has been carried out by a great number of operators. There is still some question among surgeons as to the comparative merits of this operation and cholecystostomy.

Cholecystostomy.—The establishment of an artificial biliary fistula as an atypical procedure dates back to J. L. Petit in 1743, when the gall-bladder was incised following the formation of adhesions by Nature's efforts. Typical cholecystostomy was suggested by Carré in 1833. Bobbs, an English surgeon, seems to have been the first to perform the operation. Bobbs' operation, however, was not a formally planned one, and the procedure was instituted to retrieve a diagnostic error. To Marion Sims, therefore, is due the credit of first performing a deliberately planned cholecystostomy (April 18, 1878). Sims' case was done in one stage or sitting. He was followed by Lawson Tait, and in a few years the procedure became one of the most popular in the surgery of this region. The technic of the operation has been varied to suit the inclination or fancy of different operators, some preferring primary incision of the gall-bladder and final fixation, while others have followed the reverse order, *i. e.,* primary fixation of the gall-bladder and finally incision.

Cholecystostomy in two stages was first suggested by Bloch and first performed by Kocher in 1878. Riedel of Jena has 37 such operations to his credit. Nevertheless, with the subsidence of the fear of peritonitis there is a tendency to abandon this particular method of cholecystostomy.

Two valuable additions have been recently made to the technic of this operation. The one consists in inverting the serous covering of the gall-bladder into the incision in such a manner that upon the permanent withdrawal of the rubber drainage-tube, rapid closure of the gall-bladder incision will ensue (Jones). The other consists in fastening the rubber drainage-tube into the gall-bladder incision and leading the tube to the parietal wound and packing around the tube with gauze for the purpose of securing the rapid formation of adhesions. This last-named maneuver is of value in cases in which the gall-bladder is not readily brought to the abdominal incision. The technic of these procedures has been developed in my service at the Brooklyn Hospital by my assistant, Dr. Russell S. Fowler, as follows: The incision in the gall-bladder is encircled by a purse-string suture of catgut, including the serosa and muscularis. A rubber drainage-tube of proper size is then placed in position and secured by a catgut suture at each angle of the gall-bladder incision. The edges of the latter are now invaginated by means of the attached drainage-tube, and the purse-string suture drawn upon and secured.

Cholecystectomy.—The operation for the removal of the gall-bladder was performed experimentally and upon a cat with a therapeutic object in 1767 by Herlin, although it is stated by J. Pantaloni that experimental operations of this character were performed upon animals one hundred years previously. The credit of having first performed cholecystectomy upon man belongs to C. Langenbuch (July 15, 1882), although as early as 1826, sixty years following Herlin's successful experiment Campaignac endeavored in vain to prevail upon the surgeons of his day to take up the operation. Campaignac seems to have lived in an atmosphere of theory, and his advanced views did not find a single surgeon bold enough to put them into execution. The operation has received the sanction of the most progressive surgeons of the day, in spite of the theoretical objections urged against it, particularly by Lawson Tait.

Cholecystenterostomy.—The foundation of this operation was laid through observations bearing upon the escape of large and old biliary calculi by means of ulcerative action from the gall-bladder into the intestine (spontaneous or pathological anastomosis). Anastomosis by means of sutures dates back to Winiwarter, Monatyrski and Kappeler. Anastomosis by the aid of approximative appliances includes the use of decalcified bone plates analogous to those of Senn, by Chavasse in 1892, of absorbable bone bobbins by Mayo Robson, and of the special approximation button of Lainé, 1894. To J. B. Murphy of Chicago, however, belongs the credit of bringing forward what has proved to be, up to the present time, the most practicable as well as trustworthy method of cholecystenterostomy. This surgeon in 1892 published an account of the adaptation of his intestinal anastomosis button for the purposes of this operation. The appliance known as the Murphy button introduced a new principle into this line of work, namely, the punching out and final removal of a portion of the approximated walls, thus insuring a permanent and sufficiently large opening. The method of the Murphy button has practically superseded all other approximation appliances, although several ingenious devices designed for the purpose have since been brought forward, notably that of Damaso Lainé, as well as the button of Boari, originally used for ureteral anastomosis.

Operations upon the Cystic Duct.—A number of operative procedures have been proposed for the cystic duct, notably cysticolithotripsy, or crushing of impacted calculi in this situation (Tait, 1884); lithectomy of the cystic duct, or extracting calculi from the cystic duct through an incision made in another part of the biliary passages (Courvoisier, 1888); cysticotomy, or incising the cystic duct (Lindner, 1891); cysticectomy, or resection of a portion of the cystic duct (Zielewicz, 1887); and cystico-enterostomy (Roth, in 1885, quoted by Langenbuch in 1898, and Mayo Robson, 1892).

Operations upon the Common Duct.—A number of exceedingly ingenious and interesting operations have been devised and performed upon the ductus communis choledochus. As will be readily appreciated, it is not possible to absolutely separate the surgery of the common duct from that of the duodenum. For instance, duodenotomy for the purpose of accurately exploring the terminal portion of the common duct may become desirable, particularly in cases of stenosis of the duodenal orifice. This operation was resorted to by Abbe (1891) and Adler, also in 1891. Both cases proved to be instances of malignant disease. It was first employed in lesions originating in cholelithiasis by Terrier (January, 1894). The operation has also been done by Pozzi (1894), Kocher (1895), and Curtis (1898). Mention should also be made of choledochic massage, for the dislodgment of a calculus in the duct (Hansfield Jones, 1878), a procedure which does not seem to have met with a large measure of success, since the attempt to dislodge the calculus has, with but a single exception, either resulted in complete failure, or has been followed by either choledocholithotripsy (Langenbuch, 1886; Sprengel, 1890; Robson, 1891, etc.), or choledochotomy (Riedel, 1888; Hochenegg, 1890; Heussner, 1881, etc.). The only successful case is quoted by Robson (1898). Further, choledocholithotripsy, choledochian lithectomy from the direction of the gall-bladder (Langenbuch, 1886), as well as from the duodenum (McBurney, 1891) should not be overlooked in this connection.

Choledochotomy.—Again, there is presented for our consideration in this connection the group of operations involving incisions in the common duct. These are usually practised upon a dilated duct, and for the removal of impacted biliary calculi. The classical procedure of this group is intraperitoneal choledochotomy and constitutes one of the most important operations in biliary surgery. Conceived by Langenbuch in 1884, it was developed by Parkes in 1885. Five years later Kocher of Berne gave it his support and insisted upon the future possibilities of this operation. To Marcy, Ferguson, and Fenger have in turn been ascribed priority in this operation. The first typical operation was undoubtedly done by Thornton of London (May 9, 1889). Marcy's operation was done on October 26, 1889, more than five months later. The procedure is now established upon sound basis.

The question of omitting the sutures, or in other words instituting direct drainage of the common duct, was first raised by Parkes (1885). This was done first by Hochenegg (1890). Since that time the proposition has grown in favor, and the list of names of prominent surgeons who favor this procedure, as shown by their writings, numbers no less than twenty.

It has been proposed to perform the operation in two sittings, first performing a subhepatic laparotomy and tamponing the region of the common duct (Yverson, 1892). This procedure is, in effect, but a simple variety of the "two-sitting" operations in general.

Choledochotomy by the lumbar route has been the subject of theoretical study by Tuffier and Poirier (1895), and of anatomical researches by Wiart (1899). While the gall-bladder has been approaches from this direction by Wright (1885), and others, no clinical observations upon the application of the method to choledochotomy have as yet appeared.

Transduodenal choledochotomy was first proposed by Czerny, of Heidelberg (1892). The first operation was done by Kocher

(1894). It has been done twice since, once by Kehr (1894), and by Mayo Robson (1898).

Choledochostomy, or bringing together the dilated canal of the common duct and the skin of the abdominal wall in such a manner as to furnish a permanent opening to the interior, is an operation of considerable difficulty and risk, and will not be frequently demanded. It seems to have been an outcome of Parkes' suggestion of choledochotomy without sutures. The first case of typical choledochotomy dates back to Helfrich of Greifswald (1887).

Choledochectomy, or resection of a portion of the common duct, was first performed by E. Doyen upon a case in which the duct was torn in the course of an operation. Experimental resection in a dog was subsequently done by Reynier (1897).

Choledocho-enterostomy, or anastomosis of the common duct with the small intestine, is only possible in a greatly dilated duct. It was conceived by Riedel of Jena (1888). He was followed by Kocher in a case in which two calculi were embedded in the common duct. The first successful case is credited to Sprengel (1891).

Operations upon the Hepatic Ducts.—The surgery of the hepatic ducts is still in its infancy and, owing to the infrequency of operable lesions in this region, operative attacks will rarely be required.

Of the operations upon this portion of the biliary passages are to be mentioned hepaticolithotripsy, or crushing *in situ* biliary calculi embedded in this canal (Kocher, 1890) and hepaticolic massage, or dislodgment of impacted calculi in the hepatic duct. An unsuccessful effort in this direction by Elliot was made in 1894. Hepatic lithectomy, or removal of calculus through an opening made in some other portion of the biliary passages has been attempted (Courvoisier, 1890; Abbe, 1891, and others); hepaticotomy, or incision of the hepatic ducts (Kocher, 1899); hepaticostomy, or fixing a dilated hepatic duct or one of its branches to the abdominal wall by the transhepatic route (Thornton, 1888; Robson, 1891; Chapman, 1898); and finally, hepatico-enterostomy, or anastomosis of the hepatic duct with any portion of the intestinal canal, has been studied experimentally by Bezançon (1893), but has never been clinically applied.

Operations upon the Intrahepatic Biliary Passages.—The surgery of the intrahepatic biliary ducts, or rather branches of the bifurcation of the second division of the hepatic canal, is the least developed of the surgery of the region under consideration, and is practically limited to the opening from the exterior of one of the dilated radicals. It was first performed by Kocher (1882). He was followed by Langenbuch (1886), Heussner (1888), and subsequently by others. Choleangiectomy, or resection of the intrahepatic biliary branches, more or less dilated under the form of a simple cyst, appears to have been practised by Kaltenbach, Berg, and König (1889). A case operated upon by Lawson Tait was published by Christopher Martin in 1892. Marcel Baudouin has grouped all the cases of extirpation or enucleation of simple biliary cysts under the heading of cholangiectomy.

Cholangio-enterostomy, or uniting a dilated branch of a hepatic duct with a loop of small intestine has been proposed by Baudouin (1896), and Langenbuch (1897). This, to say the least, curious operation has not, as yet, been attempted.

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ABSCESS OF THE LIVER.

BY WALTER C. WOOD, M.D.,
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In a brief clinical consideration of abscess of the liver it may be well to note the usual avenues of infection.

1. *Traumatism.*—These cases are not common. Both penetrating and non-penetrating injuries may result in abscess. In penetrating wounds it has usually been found that the septic process has developed after the closure of the superficial wound, and a foreign body, more or less encapsulated, has been the determining cause of the suppuration. In non-penetrating injuries the more severe ruptures are soon fatal and it is only in the slighter degrees of liver injury that the abscess develops. The damaged part does not repair and an indirect infection through the blood-stream produces an insidiously developing abscess that may readily escape recognition. It may be expected that liver abscesses due to trauma are single and not multiple and in the absence of complicating lesions offer a favorable outlook to surgical effort.

2. *Parasites.*—It must be noted that these animal parasites are only the predisposing cause of the suppuration, acting like an inert though irritating foreign body and a pus-producing or-

ganism like the bacterium coli communis, ever present in the intestinal tract, is the direct exciting cause of the abscess. There are four varieties of parasites found in the human liver. The distomata, or liver flukes, so common in sheep, and the coccidia, whose chosen home is in the liver of rabbits, have both been found in abscesses of the human liver, but so rarely as not to merit much attention. The ascarides, or round worms, and the hydatids, are more frequently the cause of suppuration. The cases of round worms are usually in children. The worm crawls up the bile duct from the intestine into the liver, is killed by the bile and an abscess arises from the pus organisms carried in by the worm. I have seen obstructive jaundice of marked severity three times recurring in a child of four years, suddenly relieved with the coincident passage of a round worm by rectum. Cases are recorded of both single and multiple liver abscesses, containing from one to fourteen dead round worms.

Hydatid cysts, occurring in races liable to that affection, have frequently been the starting point of abscess. It is said that the suppuration usually begins in the liver tissue surrounding the cyst and the cyst is afterwards involved, but that it may begin in the cyst contents itself. The cyst may have been small and have given no pressure symptoms, in which case the cause of the abscess cannot be recognized. As in the majority of cases of hydatids, the cyst is usually single and not multiple, so abscesses due to this cause may be expected to be amenable to surgical treatment.

3. *By Direct Continuation from Adjacent Suppurative Processes.*—The primary lesion here is in the lung, the pleural cavity, the gall-bladder or the ducts. Tubercular cavities at the base of the right lung have caused liver abscess. In a case of my own, a right-sided empyema, three months after an apparently sound healing has caused an hepatic abscess. This is also, in my judgment, the method of infection in some of the cases associated with gall-stones and septic inflammation of the gall-bladder. It may be by direct involvement through the wall of the gall-bladder where it rests in contact with the liver uncovered by peritoneum, or gall-stones, impacted in the cystic and less frequently in the common duct, have produced injuries permitting the colon bacillus to develop ulcerating processes that advance along the mucous membrane of the hepatic duct to the liver, setting up an abscess.

4. *Pyemic Origin.*—This is the most frequent method of in-

fection, and, unfortunately, the majority of these abscesses are multiple. It occurs in several ways. (*a*) By the portal vein. Ulcerations of, and operations on, the rectum, dysenteric ulcers of the colon, appendical abscesses, typhoid patches, gastro-intestinal catarrh, septic inflammations of the umbilicus, ulcerations of the stomach and duodenum, etc.; in fact, septic processes in any region drained by the portal vein and its tributaries, have been followed by multiple abscesses of the liver. Septic emboli have passed from the ulcerations into the portal circulation and been arrested by the capillaries of the liver. Waring states that 75 per cent. of all liver abscesses are preceded by some ulcerative process of the intestines. There is an exception to the multiple character of these abscesses. The variety of abscess found so frequently in tropical countries is usually single in character, although, according to many observers in those regions, it is preceded in from 75 to 85 per cent. by dysentery. The remainder give no such history, but we are inclined to believe that the spontaneous origin of some of these tropical cases is apparent only and that some insignificant lesion of the intestine has probably existed. A parallel instance is that of facial erysipelas, formerly considered to be idiopathic, but now known to arise from a minute abrasion about the nose or ear. (*b*) By the hepatic artery. In this type of pyemic abscess the original septic process is at a distant point. Septic head injuries, osteomyelitis, gangrene of the lung, purulent bronchitis, septic endocarditis and low grades of general pyemia have all given hepatic abscesses. (*c*) By the inferior vena cava. Waring states that there is no positive proof that abscess of the liver has arisen in this way, yet all authorities mention it as possible or probable. Cases arising after head injuries, where there have been no septic infections found in the lung, are cited as proving this method of pyemic infection.

Pathology.—The contents of a liver abscess is thick, yellow or more often reddish in color. Acute cases contain few pus-cells and represent a collection of necrotic liver tissue, rather than the products of an inflammation. The walls are soft and friable, and show no limiting membrane of fibrous and granulation tissue, but masses of necrotic liver tissue hang from their surface, which bleed if handled roughly. The more chronic cases have a fibrous wall that will bear curetting. This wall has even undergone calcareous degeneration, especially in elderly people and where it is probable that there has been a pre-existing cyst. If unopened, about 30 per cent. will show a communication with the lungs, pleura, peritoneum, alimentary canal; a third of these, opening into the lung. About one-half of liver abscesses are sterile of pus organisms. Pyemic cases show the staphylococci more frequently than the streptococci or the bacilli coli communis. In addition to these organisms cases preceded by dysentery show the amebæ coli, some observers state as a constant thing, others in about half the cases. The typhoid and tubercular organisms and the various parasites and gall-stones have been found associated with the ordinary pus germs. Single abscesses occur sixteen times as frequently in the right lobe as in the left. Multiple abscesses are usually small, although several of them may be larger than the rest. A single abscess may contain more than a quart.

Symptoms.—Thirteen per cent. of tropical abscesses are latent, giving neither local nor general symptoms until they burst into adjoining organs. Most cases give definite evidence of their presence. The local symptoms are as follows: Rigidity of the upper part of the right rectus muscle is present; this symptom being found in all inflammatory lesions of the underlying structures in the region. Tenderness with slight edema or even redness is found in advanced cases. The pain varies, from a sharp darting one, similar to that of pleurisy, in cases where a perihepatitis is present, to a heavy dull pain in large deep abscesses. There may be no pain where general sepsis is well marked. A localized enlargement of the liver is generally present. There may be a general enlargement in a multiple case and occasionally the abscess takes the place of destroyed rather than displaced tissue, so that *no* enlargement results. If the abscess is near the upper surface, the liver may be pushed down, or the enlargement recognized only by a thoracic dulness. Here the signs are similar to those of a subphrenic abscess. Very rarely can fluctuation be detected. Jaundice is usually absent but the complexion is muddy. Reflex pain in the scapular region and a reflex cough or a hiccough with gastric disturbance characterize an abscess in the upper or lower portions respectively. In southern cases the temperature is said to be intermittent with chills, but here the fever is more constant, although not very high and rigors are not a marked feature.

The diagnosis of liver abscess is usually easy but sometimes impossible. Latent abscesses (13 per cent. of tropical cases) cannot be recognized until they burst. Local tenderness with some enlargement, reflex pains, and muddy complexion with an increase of temperature will suggest this infection. The presence of a septic process elsewhere that could have caused the lesion is most important in coming to a conclusion; for it must be remembered that abscess like carcinoma of the liver is practically a secondary lesion. In many cases one cannot decide on the nature of a liver swelling without aspiration. There has been much discussion as to the propriety of such action in cases of suspected liver abscess. I think such procedure is strongly indicated if one is prepared to incise promptly in case the syringe shows the presence of pus or the contents of a hydatid cyst. Careful aspiration of a cirrhotic, or fatty, or carcinomatous, or normal liver does no harm, but the leakage from an aspirated abscess has proven fatal in 80 per cent., and from an aspirated cyst in 19 per cent. of cases, where an attempt to cure has been made by aspiration alone. The syringe here is a diagnostic and not a therapeutic agent. From the clinical standpoint there is one fact of especial importance to be determined in any given case, *viz.:* whether we have a simple abscess, or, at the most, several abscesses, and thus amenable to surgical treatment, or multiple abscesses, a condition practically always beyond the realm of successful surgery. The etiology gives us the clue and the physical examinations help us to reach an opinion reasonably correct. Cases due to trauma, to gall-stones, to cysts, cases classed as tropical in origin, and all those running a subacute or chronic course are probably cases for operation. Cases due to the various pyemic processes of distant origin are surely multiple and should be left alone. Cases due to infection through the portal vein are probably multiple also, but not certainly so, and offer a slight, though definite hope of a cure. Again, a definite localized swelling containing pus is probably a single abscess, while a general enlargement of both lobes indicates multiple foci. In making a diagnosis of abscess of the liver, one must not be misled by the duration of the symptoms, for many cases of two, three, and even six months are recorded, while cases discharging periodically into a viscus may last for years.

There are a few conditions to be excluded in making a diagnosis of abscess of the liver. Gummata give other evidence of constitutional disease, have very little cachexia or evidence of septic absorption and are less tender on pressure. The few cases that I have seen have been more clearly outlined when a single process has been present or have presented several knobs on the free portion of the organ instead of the smooth surface of abscesses.

From a disturbed and inflamed gall-bladder one must rely on the location of the tenderness and on palpation to determine the shape of the organ. Jaundice, while more common in this condition, is by no means a necessary symptom and its absence should not be misleading.

A subphrenic abscess cannot be distinguished from an abscess of the upper portion of the liver unless gas and also pus are both obtained by percussion or aspiration. It may be noted also that hectic septic symptoms are more pronounced than in cases of liver abscess.

A sacculated empyema and certain liver abscesses give the same physical signs, so that the clinical history of preceding thoracic rather than of abdominal disease is the chief guide.

An abscess of the anterior abdominal wall simulates most closely a liver abscess approaching the surface. A discrepancy in the duration of the illness in reference to the state of the septic process may determine the diagnosis.

Other conditions less confusing need not be mentioned.

The prognosis is most grave. Statistics seem to indicate that 93 per cent. of all cases untreated are fatal. About 10 per cent. rupture into the lung, which is the most favorable termination for a natural cure, as half of these recover, or 5 per cent. of the whole number. A very small number open safely through the skin, and probably a few become encapsulated. It would seem as if about 7 per cent. would recover without interference. Rupture into the colon has been followed by a cure. All peritoneal ruptures have been fatal except one case saved by prompt operation. Combined statistics of tropical countries show that there half the cases are single and half multiple. Here, probably about 70 per cent. are multiple and 30 per cent. single.

Treatment.—The only rational plan of treatment, when the patient is evidently not beyond relief, is prompt drainage. Waiting for adhesions to form or for pus to approach the surface of the liver or abdominal wall is more dangerous than early operation. Delay is dangerous in three ways, from septic absorption, from the increase in the extent of liver tissue involved and the number of abscesses, and from rupture. The best results of operation come from Alexandria, where Zancarol cured 50 per cent. out of 154 cases, in which list 60 per cent. were single and 40 per cent. were multiple. In other words, he cured 90 per cent. of the single abscesses, or the curable cases. If with us 30 per cent. of the cases are single and 70 per cent. multiple, we should be able to cure 27 per cent. of all cases, which is an advance of 20 per cent. over the expectant method.

The accepted operation to-day is drainage at one sitting. The operators who report the best results advise incising the liver tissue with the cautery. The procedure differs, depending upon the location of the abscess as to whether it should be approached through the abdominal or pleural cavities. A few late cases present adhesions and can be incised directly without opening the abdominal cavity. The usual abdominal operation is as follows: A vertical incision four inches in length, commencing at the border of the rib, is made over the most prominent part of the swelling. The peritoneum is incised through the entire length of the incision. The general cavity is then packed off with gauze. An aspirator is used to locate the abscess and draw off as much of the fluid as possible. The needle must be large, as the pus is usually thick. An incision, one or two inches long, is now made through the liver tissue into the abscess, with the cautery knife, and the cavity sponged out. Its interior is then explored to locate any abscess admitting of drainage through the first one. It is well to curette a chronic abscess, but probably not an acute one. The use of tincture of iodine to swab out the cavity aids the disinfection. The margins of the liver tissue are then united to the skin with half a dozen sutures, using a round needle; a short drainage-tube and moderately firm packing are then inserted.

The Intra-thoracic Operation.—An incision is made parallel to one of the lower ribs adjacent to the abscess. I think it wise to excise at least four inches of the rib so as to permit the introduction of the hand. The costal pleura is then opened for the full length. The pleura covering the diaphragm is next incised for two inches and with the diaphragm is stitched to the costal pleura, thus shutting off the pleural cavity. Waring and other authorities advise this precaution. In the only case of this kind that I have done, I avoided an empyema and obtained a successful result by packing off the pleura as one usually does the abdominal cavity. An aspirator is then inserted into the abscess and the procedure from this point is the same as in the abdominal operation.

TUMORS OF THE LIVER.

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Read before the Medical Society of the County of Kings, May, 1900.

Tumors of the liver are of rather frequent occurrence and, as a rule, are not difficult to recognize. They may be classified as malignant or benign; as primary or secondary growths; as solid or cystic; as limited to a portion of the liver or involving the entire gland; or the liver itself may form the tumor.

As examples of involvement of the entire liver we may mention hypertrophic cirrhosis, amyloid liver, fatty liver, the uniform enlargement due to massive cancer, the hepatites due to abscess of the liver, hydatid cysts, or neighboring inflammation in the gall-bladder and ducts. Under such circumstances the organ is enlarged as a whole. It is not such cases that we shall discuss, but rather we shall turn our attention to localized enlargements of the liver. Before going further, however, it is necessary, from a diagnostic standpoint, to consider those instances in which the liver itself forms the tumor. Such cases are not rare. The most frequent form is the *pulsating liver* met with in chronic mitral disease. The insufficiency of the tricuspid valve allows each systole of the right ventricle to be communicated through the right auricle directly into the column of blood in the hepatic veins. (Osler). This results in an expansile pulsation of the entire liver synchronous with the heart-beat. *Floating* or *movable liver* is another variety. This is either congenital or acquired. In the latter event it results from tight lacing or from the dragging upon the liver of an enlarged gall-bladder or of large tumors or cysts. The congenital variety is usually accompanied by enteroptosis. The degree of mobility depends upon the amount of lengthening of the suspensory, lateral and corunary ligaments and in rare instances the absence of the two latter. It occurs much more frequently in women than in men. Such a liver may give rise to no inconvenience and the lesion be only discovered at the post-mortem table, or there may be so much dragging pain in the hepatic region as to render the unfortunate individual's life quite unendurable.

There are frequent attacks of severe pain and jaundice may be present at times. Digestive disturbances are common. Examination will disclose a tumor of the size and shape of the liver which in many instances can be made by manipulation to occupy the normal liver site. In addition, percussion will elicit tympanitic resonance over the hepatic region. In such a case Professor Fowler recently performed complete hepatopexy with most satisfactory result.

The acquired variety may be complete or partial. The latter is by far the more frequent. The left lobe is usually affected. I have operated upon a case of this kind in which the etiological factor was a large echinococcus cyst springing from the inferior surface of the left lobe in the neighborhood of the transverse fissure.* This had been in existence for some time and had so dragged upon the liver that the tumor and left lobe could be moved to almost any part of the abdominal cavity. The cyst was removed entire without rupture, the suspensory ligament, which was much elongated, was shortened, the superior surface of the liver was scarified, and gauze was placed between the liver and diaphragm to produce adhesions. The case made an uninterrupted recovery. The *treatment* of this unique condition is, in congenital cases, the reposition of the liver and its retention by a suitable appliance. Should this not prove satisfactory, operation must be resorted to. Hepatopexy, partial or total, has proved successful in the hands of several operators [Langenbuch, Tscherning, Gerard-Marchant (hepatopexy), Richelot, Lannelongue, G. R. Fowler (complete hepatopexy)]. In the acquired variety the exciting cause should be sought for and removed. If due to tight lacing this is to be abolished and a suitable belt substituted. Tumors and cysts should be removed when such a course is feasible and hepatopexy performed. If a distended gall-bladder is at fault it should be emptied and stitched to the abdominal wall.

Yet another form in which the liver may present as a tumor is *botryoid liver,* so called from its resemblance in shape to a bunch of grapes. Such a condition is the final result of a syphilitic hepatitis and the changes are permanent.

Accessory Lobes.—Usually these are too small to attract attention and are only discovered at autopsy. Occasionally, however, they may become hypertrophied and be mistaken for new growths. This justifies their mention here. Martin (*Birmingham Med.*

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* Brooklyn Surgical Society, April, 1900.

Rev., XLIIII., p. 92, 1898; Keen, *Ann. of Surg.*, p. 276, 1899) removed such an hypertrophied accessory lobe from a woman thirty-six years of age. The swelling had been noticed for twelve years and was the size of a six-months' pregnancy. The provisional diagnosis was renal cyst. Laparotomy disclosed the true condition. The base of the lobe was ligated and the gall-bladder excised with the mass. The abdominal incision was closed with interrupted silkworm gut sutures. No drainage was employed. A good recovery followed. Examination showed liver-cells in the accessory lobe but no ducts. Some of the cells resembled sarcoma. Professor Keen in his table of 75 cases of hepatectomy cites 5 instances in which a constricted, accessory, or herniated left lobe was removed.

The usual causes of tumor of the liver are cancer, abscess, syphilis, hydatids, and occasionally tuberculosis. The most common form is secondary carcinoma. Sarcoma, lymphadenoma, and angioma are at times observed; more rarely still myxoma, fibroma, and atheroma. *Aneurism of the hepatic artery* must be considered from a differential diagnostic standpoint. Here we have a tumor in the hepatic region which by pressure on the common bile-duct invariably causes jaundice. Pain is very severe. The diagnosis rests on the expansile pulsation and the bruit.

Secondary carcinoma follows a primary growth in the stomach in about twenty-five per cent. of the cases, and as such is unrecognized during life. The symptoms of the primary growth are so prominent that the secondary development is overshadowed. In perhaps another 25 per cent. of the cases the primary growth is sufficiently well advanced to mask the metastatic growth. In nearly all cases of cancer of the liver there is progressively increasing pain and distress in the hepatic region. There is a steady decrease in weight and loss of strength which appears early in the course of the disease. This progressive emaciation is more marked in malignant disease of the liver than in malignant disease elsewhere. The organ increases rapidly in size and is tender to the touch. Gastric disturbances are frequent. Jaundice may be present early but, as a rule, it appears late and steadily increases. The cause is found in pressure upon the common or hepatic ducts or involvement of the ducts within the liver. Cancer is the most frequent cause of long standing jaundice. Ascites may be present. This is due to pressure upon the portal vein or to the extension of the disease to the peritoneum. In cases which run a very rapid course there may be slight elevations of temperature from time to time. The tumor varies in size. In rare cases of long-standing it may almost entirely fill the abdominal cavity. Cases which involve the entire liver will present characteristic nodules upon the surface. These vary in size, some being so small as to be hardly perceptible, while others are as large as an orange. They are umbilicated, hard, with rounded edges, having a depression in the center. This depression is caused by degenerative changes and subsequent cicatricial contraction occurring in the center of the mass. Occasionally these cases proceed very slowly and are difficult of diagnosis. Such a case was operated upon by me in 1898 in Professor Fowler's service in the Brooklyn Hospital. The attending physician had diagnosed the case as one of malignant disease of the gall-bladder. Though enlarged, the liver felt smooth and no nodules could be made out. Exploratory laparotomy revealed a liver the seat of massive cancer with secondary involvement of the common duct. It is at times difficult to differentiate between carcinoma and hypertrophic cirrhosis. The presence of the nodules is characteristic. Jaundice may be present in both. In cirrhosis the surface of the liver is smooth, it is not tender, and the spleen is enlarged. There is absence of cachexia.

Abscess of the liver may present as a palpable tumor. Such a tumor develops beneath the right costal margin or in the epigastrium. Tenderness is present unless the disease has been in existence for a considerable time. The size of the tumor rapidly increases and as it becomes more prominent fluctuation may be obtained. In some cases there may be no change in months. The constitutional symptoms, irregular fever, chills, and sweating, together with the rapid growth and extreme tenderness of the tumor should be sufficient to establish its character. In cases in which there is doubt the aspirator may be used. The previous history is valuable in these cases. While dysentery may not be present, a history of it is usually obtainable. The presence or absence of amebæ should be ascertained. The sallow and malarial aspect of the patient should be considered.

Syphilis.—Syphilitic tumors are not rare nor should they be difficult of diagnosis. They present two forms, the recent gummata and the botryoid liver, which are the final result of a syphilitic hepatitis. This form has been mentioned in the class in which the entire liver forms the tumor. It presents as an irregular, hard, knobby mass, divided by cicatricial bands. The recent gummata, however, form genuine tumors. They occur as hard nodules or flat masses of large size, presenting most frequently in the epigastrium. They differ decidedly in feeling and shape from the knobs of cancer. In many instances a clear specific history can be obtained and the diagnosis can be verified by the administration of potassium iodid. While this is unlikely to result in a total disappearance of the tumor yet there is almost invariably a rapid marked decrease in size. A case reported by Osler is of interest as showing how almost entirely such tumors may disappear under prolonged specific treatment. A private patient, a male, twenty-eight years of age, presented a flat tumor in the epigastrium. Its attachment to the liver could be readily made out. There was a clear history of syphilis. Potassium iodid was given and one year later the tumor had practically disappeared.

Occasionally the abdomen is opened for such tumors when no specific history can be obtained. Such a tumor was exposed by exploratory laparotomy by Professor Fowler in June, 1896, at the Brooklyn Hospital. The patient, a male, thirty-nine years of age, absolutely denied any specific history. He had suffered from pain and distress in the hepatic region for thirteen months prior to his admission to the hospital. During the last month the pain and distress had greatly increased. The liver was much enlarged and was tender. A smooth, hard tumor could be felt just beneath the free border of the right lobe. This was quite tender and resembled a distended gall-bladder. Exploratory laparotomy showed this to be an hypertrophied lobe of the liver. The wound was closed. Under specific treatment the patient fully recovered.

At times gummata break down and find their way to the surface. I have operated upon one such case in 1898. The patient, a woman, gave a history of hepatic distress extending over a period of months. Examination showed an area of discoloration in the skin just at the right costal border. The liver was much enlarged. There was a history of syphilis. An incision was made through the discolored area and a double handful of broken-down gummatous material was curetted from the interior of the right lobe. The resulting cavity was irrigated and packed with iodoform gauze. Potassium iodid was administered and the patient made a complete recovery. *Treatment.*—Potassium iodid proves curative in the vast majority of cases. For botryoid liver nothing can be done. Should the nature of the tumor only be discovered after the abdomen has been opened, the wound should be closed and potassium iodid given. Some operators have excised or curetted gummata, knowing them to be such. Such practise is hardly justifiable unless potassium iodid has been proven nonefficacious.

Hydatids.—This disease is caused by the tænia echinococcus whose normal habitat is in the upper part of the small intestine of dogs. Its communication to man is the result of environment. Australia and Iceland are the countries where the disease is most prevalent, countries in which the natives are not cleanly in their habits and who live in close association with dogs. The five cases which it has been my privilege to observe in Professor Fowler's service all occurred in Italians. The tænia are taken into the stomach and their albuminous envelope is partly digested. Thus set free they burrow into the tissues and most frequently enter a radicle of the portal vein, by which they are carried to the liver. In course of development there they set up an irritation which results in the formation of a tough fibrous capsule. Inside this capsule may be a single parent sac or more than one. More rarely the multilocularis form exists, a series of parent sacs filled with gelatinous fluid. The entire mass is irregular, encapsulated, and somewhat resembles alveolar carcinoma. Indeed, the disease was known to the older writers under this name. The fully developed echinococcus cyst is filled with fluid in which float daughter cysts. In these again is found fluid and sometimes tertiary cysts. The hooklets of the parasite are found in the cyst wall. A form occurs which contains no daughter cysts, only fluid. Such a cyst is termed sterile. The cysts may exist throughout life and only be discovered at autopsy. They may reach enormous proportions. The great danger is that they may rupture. Rupture may not be fatal, as it may occur externally or into some part of the intestinal tract. Such a rupture may result in a cure. Rupture into the lung, pleura, gall-bladder or peritoneal cavity is almost invariably fatal. Infection may occur and the cyst resemble an abscess of the liver. Bile may enter the cyst and by killing the parasite effect a cure. Cysts which have undergone so-called spontaneous cure, either through entrance of bile or rupture, or which have been incised and drained, shrink until there results a hard fibrous ball representing the cyst capsule; such a cyst may refill and grow if echinococci have been left alive in the wall. The chief *symptoms* are a sense of distress and weight in the hepatic region and the tumor. As a rule *diagnosis* is easy. The surface of the tumor is smooth and rounded. Its connection with the liver is readily made out. To the touch it is tensely elastic and rarely tender. The long history, slow growth, absence of loss of weight and strength, and lack of tenderness, differentiate it from cancer or abscess. Its shape and the absence of biliary symptoms rule out the gall-bladder. In cases in which the gall-bladder is distended from pressure of the cyst there will be two tumors, the enlarged gall-bladder and the cyst. The fact that the colon does not overlie the cyst rules out cystic or sarcomatous kidney or other retroperitoneal growth. In a case of my own, however, the transverse colon was so held to the anterior surface of the cyst by adhesions that there was tympanitic resonance over the cyst. The so-called hydatid fremitus, Santorini's booming sound, is only present when the daughter cysts swim in fluid. It is caused by their impact upon each other when the cyst is percussed. It is absent in those cases in which the parent sac is too distended to allow the daughter cysts to change position, or in which there is not sufficient fluid for them to float, or in sterile cysts. *Treatment* consists in excision by hepatectomy where this is feasible, either by the transpleural or abdominal route. In cases which do not admit of this the fibrous capsule may be sewn to the edges of the incision and opened in either one or two stages. If this procedure is employed the lining of the cyst should be removed. A stream of solution played between the fibrous capsule and cyst proper will greatly facilitate removing the lining entire. Formerly these cysts were aspirated or injected with various solutions and at times a cannula was left *in situ*. Such procedures are not countenanced nowadays, as they have frequently resulted in death.

Sarcomata.—Primary sacoma is very rare. Less than twenty authentic cases have been reported.

Adenomata.—These are also uncommon. They may remain quiescent for years and finally undergo malignant change. The diagnosis can only be made by the long existence of the tumor and the absence of severe symptoms. Groube reports a case successfully treated by operation but which developed carcinoma eleven months afterward. In 1893 Bergmann successfully removed with the thermocautery a tumor of this variety situated in the left lobe.

Angiomata.—Angioma is the most frequently observed variety of the benign tumors of the liver. There are two forms, the congenital and a form which appears later in life. The former is of exceedingly rapid growth and rapidly fatal. Of two cases cited by Waring ("Jacksonian Prize Essay," 1894) one died at the end of eight months, the other at the end of six months. The form which appears later in life occurs mostly in males of sixty years and upwards, rarely before forty. There may be a single tumor but more often they are multiple. They rarely attain to a large size and are almost invariably separated from the liver substance by a fibrous capsule. They rarely become large enough to cause symptoms. Eiselberg and Rosenthal have each reported cases in which hepatectomy was performed. The former first attempted to enucleate the tumor, but the hemorrhage proved so severe that this was abandoned and removal was finally accomplished by cutting through normal liver tissue with the thermocautery at a distance from the growth. Individual vessels were tied with silk. The case made a good recovery. In Rosenthal's case it was possible to pass an elastic ligature around the base of the tumor which was somewhat pedunculated. This ligature was held in place by a steel needle. Five days later the tumor was cut away in front of the ligature by means of the thermocautery. The resulting stump was tamponed. In six weeks the patient had completely recovered. Electrolysis has been suggested for those tumors which are too large to admit of removal.

Fibromata and other tumors are too rare to need discussion here.

DISCUSSION.

Dr. George Ryerson Fowler: My experience in this field of work has been somewhat extensive and goes back to January, 1882, when I did my first hepatotomy for abscess of the liver.* My next case occurred at St. Mary's Hospital, where I was asked by Dr. Kuhn to see with him an obscure case with symptoms referable to the liver. A diagnosis of deep-seated abscess of the liver was made. A parahepatic abdominal incision was made, the liver brought to the abdominal wound and the attempt made to fasten it to the latter by sutures. This failed, probably because the Hagedorn needle was used in place of the ordinary round needle now much employed; the wound was therefore packed. At the end of four days the packing was removed, an exploratory needle passed, and, after several punctures had been made in different directions a stream of pus passed through the exploratory needle and into the exhaust bottle of the Dieulafoy aspirating apparatus employed. This was followed by the application of the thermocautery passed alongside the needle as a guide to the abscess cavity, which was completely drained by the incision thus made. The patient made good recovery.

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* *Annals of Anatomy and Surgery*, Vol. VI., p. 51.

Four years ago Dr. Hoxie asked me to see a case of tumor of the liver in a young woman of twenty-eight, in whom the diagnosis was obscure; carcinoma was suspected by Dr. Hoxie. There was a possibility of syphilitic disease, however. A careful examination failed to reveal evidences of carcinoma in other organs. The only symptoms present were localized pain and tumor. It was for the purpose of clearing up the differential diagnosis between gumma of the liver and neoplasms that she was admitted to the Brooklyn Hospital and an exploratory operation undertaken. Even when the right lobe of the liver came into view it was not certain whether gumma or carcinoma was present. The neoplasm presented the white fatty appearance of gumma, yet it seemed more solid and having been present several months if syphilitic in character it should have begun to break down. I proceeded to remove the growth, together with a large portion of the right lobe of the liver, by the thermocautery; the hemorrhage was slight. A tampon of iodoform gauze was led to the stump and the wound was partly closed. The patient made a good recovery from the operation. An examination of the growth and liver tissue removed was made by Professor Van Cott. It proved to be a carcinoma, probably primary in character. This was a rare case, first, because of the youth of the patient, and second, because of the fact that it was evidently primary in character. The patient made a good recovery from the operation and left the hospital apparently well. She died some months afterward with evidences of general carcinomatous cachexia, but no evidences of carcinoma elsewhere.

In a second successful case of hepatectomy, which came under my care at the Methodist Episcopal Hospital, almost the entire right lobe was removed by means of the thermocautery for a tumor which presented in the epigastrium, and which could be easily traced to the liver. The patient made an uninterrupted recovery. The tumor proved to be an atheroma.

Six cases of echinococcus cyst of the liver have been operated upon in my hospital services. These patients were all born in Italy and had been but a short time in this country. The first patient was treated by abdominal incision, puncture of the liver by the thermocautery, evacuation of the contents of the hydatid cyst and the subsequent injection of diluted tincture of iodine; this patient made a good recovery, the cure, however, occupying nearly a year. In the second case extirpation of the lining membrane in part was effected; length of time occupied in the cure was reduced to six weeks, the curette being finally resorted to for the removal of the remainder of the cyst wall. In another case, my assistant, Dr. R. S. Fowler, performed complete extirpation of a large portion of the liver, including the echinococcus cyst, with the thermocautery. We have operated upon four other cases since by this method, and all have recovered rapidly.

In the matter of fixation of the liver or hepatopexia I have to record a case of a young lady whose liver was in the habit of making wide excursions over almost the entire abdominal cavity. She was admitted to the Methodist Episcopal Hospital. The liver was fastened to the diaphragm and to the anterior abdominal wall through the medium of one of the broad surfaces of the greatly lengthened falciform ligament by kangaroo sutures. She made an excellent recovery. At the present time, over six months after the operation, the liver is absolutely fixed in position.

My experience in the surgery of the gall-bladder includes one case of malignant disease; one case of rupture of that viscus occurring while the patient was under the influence of liquor; one case of "empyema necessitatis" of the gall-bladder with spontaneous expulsion of gall-stones into the structures of the abdominal wall; two cases of typical cholecystotomy, four cases of cholecystostomy, and six cases of cholecystectomy for cholelithiasis, and one case of cholecystenterostomy with the Murphy button. Of these all recovered except the first two and the last one. In the case of the latter the death was due to pneumonia, although, at the autopsy the Murphy button, owing to tension, had been dragged through the sutured slit in the duodenum, through which it had originally been passed, the Lembert sutures giving way; leakage had already commenced.

The result in this last case suggests the necessity of an improved technic. The closure of the somewhat long slit needed to pass the button by Lembert sutures, so that it is reduced in size to that of the hub of the button, has been advocated by some surgeons to replace the puckering stitch devised by Murphy in end-to-end intestinal anastomosis, but which, in lateral anastomosis, increases greatly the bulk of the surface of intestine to be included in the button, and prevents even pressure on the part of the latter, and consequent delay in the "punching out" process through which the button is finally liberated. A still better method is to make two openings in each viscus, the one sufficiently large to permit of the introduction of the button, and the other only just large enough to permit of the exit of the hub portion of the button. The first can be immediately closed by a purse-string or Lembert suture; the second will not require suturing. Weakening of the bowel wall at the point where accurate apposition must be maintained is thus avoided, and the time occupied in suturing the first opening is compensated for by the absence of any necessity for suturing the second. In other words, there would be but one suture to apply in each viscus.

This improvement in technic is applicable to lateral anastomosis at any point.

THE BROOKLYN MEDICAL JOURNAL.

Communications in reference to Advertisements or Subscriptions (Subscription Price $2.00 per annum) should be addressed: Business Manager, BROOKLYN MEDICAL JOURNAL, 260 Hancock Street, Brooklyn, N. Y.

Exchanges should be addressed: BROOKLYN MEDICAL JOURNAL, 1313 Bedford Ave., Brooklyn, N. Y.

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EDITORIAL.

Water Supply of Brooklyn.

No more important subject could have been considered by a medical society than occupied the attention of the Medical Society of the County of Kings at a recent meeting. The speakers were men who by reason of the knowledge which they possess on the subject of public water-supplies are recognized experts and their opinions are entitled to great consideration. Two things appeared very prominently in the papers which they read: first, the totally inadequate supply, and second, the questionable character of that supply. The community had been led to believe that to obtain the amount of water which the borough of Brooklyn needed, it would be necessary to go to a distance, certainly outside of and beyond Long Island. But coincident with the public knowledge that a Grand Jury was about to investigate the water-supply question, came also the knowledge that by utilizing private sources of supply, enough could be obtained to tide the citizens of the borough over the present crisis, and the "water scare" ceased. It must not be inferred from this, however, that the whole water problem, so far as quantity is concerned, is settled; far from it; but one part of this problem is apparently settled—that the supply which Long Island can furnish has not yet been exhausted.

As to the quality of our present supply, there is much doubt. Prudent users of city water boil it for drinking purposes, and in the absence of better information than we now possess this practise should be continued.

The papers presented at the meeting referred to were placed by the Society in the hands of its public health committee for consideration and recommendation, and for the report of this committee the Society waits with unabated interest.

Yellow Fever in Cuba.

One of the great advantages which sanitarians hoped for when the United States obtained control over Cuban affairs was the opportunity which would be thus presented for such a cleansing of the city and harbor of Havana as would diminish, if not entirely exterminate, that dread scourge of the tropics, yellow fever. And yet, though the city is cleaner now than it has been in fifty years, still the fever is unusually prevalent. The season which has been regarded as especially conducive to its development is the rainy season; this year this has been almost entirely absent, dry weather having replaced the usual wet weather.

The increase has been accounted for according to some by supposing that it is an apparent, not a real increase, the returns hitherto having been very incomplete; and further, by the fact that an increased number of immigrants have arrived at Havana this year. It is gratifying to note that Santiago is practically free from the disease.

The theory, advanced by Dr. Finlay of Havana, that the bites of insects, fleas and mosquitoes, propagate yellow fever is now receiving marked attention, and the observations of Dr. Reed and other physicians of the U. S. Army are strongly confirmatory thereof.

Surgeon-General Sternberg sent to Cuba last summer a commission consisting of Major Walter Reed, Surgeon U. S. A., Drs. James Carroll, A. Agramonte and Jesse W. Lazear, acting assistant surgeons, U. S. A., to investigate yellow fever. Of this commission, Dr. Carroll was bitten by a mosquito August 27, taken sick August 31, and went through a severe attack of yellow fever.

Dr. Lazear was bitten August 16 by a mosquito from a mild case of yellow fever, without serious result. He was again bitten September 15, and died of yellow fever September 25.

The mosquitoes used were raised from the eggs in tubes, allowed to bite patients suffering from yellow fever and then permitted to bite Drs. Carroll and Lazear, both of whom volunteered for the purpose. If there is any instance of devotion to science more conspicuous than this, we are ignorant of it.

Spinal Anesthesia or Medullary Narcosis.

This method of producing anesthesia is being so generally practised that it requires no prophet to foretell that a reaction will soon occur. From being considered a practically harmless method, already mutterings of possible dangers connected with its use are being heard. To those who practise it we would commend an article in the *Medical Record* of October 20th, by the inventor of the method, Dr. J. Leonard Corning of New York. He describes with great minuteness the kind of needle which should be used, the manner of its use, the preparation of the syringe, the operator, and the patient, together with the strength of the solution to be injected. A method which, for its use, requires three pages of the *Record* for its description is certainly not one which every tyro should employ, and even those more skilled should use it with caution and abundant knowledge of all that is available in medical literature. In closing his article Dr. Corning says:

"Every one at all conversant with the serious results inevitably following infection of a serous cavity must be profoundly impressed with the necessity of a rigid asepsis. This point has been insisted upon by most if not all recent writers. Yet I foresee that amid the indiscriminate slitting by irresponsible persons, sure to follow in the wake of the conservative achievements of the judicious and the competent, there is likely to be a neglect of those necessary and elaborate rules of antisepsis so necessary to the safety of the subject. Then a procession of gory tales, and a great and useful principle cast into shadow by the misadventures of a herd of venturesome empirics.

"There has, it is true, been a singular immunity from fatality till now—not a single death, I believe; but the history of innovation in the realm of anesthesia does not countenance the hope that this can go on indefinitely. No; there will be fatalities; but let there be a concerted effort by the invocation of every known precaution to keep the percentage of mortality as low as possible. Let there be less rivalry of the knife—less endeavor of one to outslit the other—and more attention to improvement of method by the invocation of the good offices of experimentation and the creative imagination.

"Again, I repeat, I am no surgeon; but, as a neurologist, I tremble for the cord."

Census of 1900.

It is, of course, too early to announce the complete results of the United States census which was taken in the month of June, but from figures which have already been reported, the total population of the United States will doubtless be found to be not far from 80,000,000, the most recent announcement being 76,295,220. The ascertained population of the thirty cities given below shows an increase of about 30 per cent. over the last census; that of the rural districts will naturally not be so great.

The list of the thirty largest cities and their population is as follows:

Greater New York	3,437,262
Chicago	1,698,575
Philadelphia	1,293,697
St. Louis	575,238
Boston	560,892
Baltimore	508,957
Cleveland	381,768
Buffalo	352,218
San Francisco	342,782
Cincinnati	325,902
Pittsburg	321,616
New Orleans	287,104
Detroit	285,704
Milwaukee	285,318
Washington	278,718
Newark	246,070
Jersey City	206,433
Louisville	204,731
Minneapolis	202,718
Providence	175,597
Indianapolis	169,164
Kansas City	163,752

St. Paul	163,632
Rochester	162,435
Denver	133,859
Toledo	131,822
Allegheny	129,396
Columbus	125,560
Worcester	118,421
Total	13,259,421

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PROCEEDINGS OF SOCIETIES.

THE BROOKLYN SOCIETY FOR NEUROLOGY.

W. H. HAYNES, M.D., EDITOR.

A regular meeting of the Society was held September 27, 1900. The President, Dr. William Browning, in the chair. In the absence of Professor Herdman, whose paper was unavoidably postponed to the December meeting, Dr. A. C. Brush read a paper on "The Effects of High-Tension Electric Currents," an abstract of which is as follows:

"The use of strong electric currents for various purposes is of such recent date that our knowledge even of their immediate effect on the tissues of the body is very meager, and as to the ultimate effect, practically nil. From a study of the literature upon this subject it would appear that the most frequent result from exposure of the human body to the currents ordinarily employed is some form of hysteria due to the fright which the mysterious nature and the knowledge of the oft-times fatal consequences of such exposure engenders. Our knowledge of the immediate effects besides this may be summed up as follows: that high-power currents may produce death, no results, burns, shock, and a variety of functional disturbances of the nervous system; that slight shocks may produce local pain, numbness, and paresis of an extremity, with headache, vertigo, and disturbances of vision; that after slight shocks, recovery usually occurs, but deep-seated emotional disturbances may persist; that severe shocks produce coma, with dilated, irresponsive pupils, stertorous breathing, and pallor, followed by tonic and clonic convulsions, fever, and high-tension pulse; that in fatal cases there is found congestion of all the internal organs, ecchymosis into the skin and into the floor of the fourth ventricle; that the current kills either by direct action on the tissues or by reflex action on the nerve centers, producing cardiac and respiratory arrest, cerebral anemia, and vasomotor paralysis, and that the currents of high power cause direct coagulation of the cell constituents of the body." He then reported four cases that he had seen, which, without the history of the cases, would have been classified as peripheral neuritis, and were analyzed according to all known theories and authorities to exclude hysteria, showing that the prolonged action of the current causes changes in the nerves themselves, followed by degeneration, and also in the muscles.

Dr. Onuf, in opening the discussion, said that he had had no experience himself in this kind of cases, but he had noticed, so far as hysteria was concerned, absence of the deep reflexes due to voluntary contraction, and again in cases of hysterical flaccid paralysis they were absent, and therefore of no special character and value. He asked if there were any history of alcohol. Particularly in the two cases of double paraplegia reported.

Dr. Haynes some few years back saw a case at Dr. Shaw's clinic of a young lineman who had been shocked by an electric-light current in the left arm, through not having on his rubber gloves. The case was seen some few weeks after the accident, at which time the man suffered from loss of power in the limb on account of atrophy and paralysis, but had no marked sensory disturbances.

He also had had the sad misfortune of having to attend an x-ray burn in a case of acromegaly, which was very extensive, painful, and long in healing. Recently he had been consulted in two medico-legal cases, both boys, one of whom had been tempted to grasp a loose live wire, which resulted in a scare and some insignificant wounds, and nothing else; and in the other the wire fell on the boy's head and on down his body, burning him in several places, causing profound shock and followed by headache, dizziness, tremor, and psychical disturbances present at the time of the consultation some little while after the accident. He asked if there had been any rise of temperature in the cases reported by Dr. Brush.

Dr. Brush, in closing, said that without the history of the accident he would, of course, have made the diagnosis in these cases of multiple neuritis most probably due to alcohol, but they all reported good health previously. The first was a Kings County Hospital case and the next two medico-legal cases, also complicated by hysteria, the last case being not of this character, but in all symptoms of an acute degenerative neuritis coming on within twenty-four hours of the accident, followed by sensory disturbances, atrophy, and loss of power. There was no history of any rise of temperature.

The report of the committee on the "Proper Care and Treatment of the Inebriate" being next in order, it was, after much discussion, decided that the committee which prepared the preliminary report for the Society be empowered to act as a committee of conference with such other societies as they may consider necessary to carry out the spirit of their report, and that they first confer with and receive the approval of the Medical Society of the County of Kings, and then with a committee of that Society, if approved, carry on the work.

Dr. W. H. Haynes was nominated to the Council of the County Society as editor of this Society's transactions published in the BROOKLYN MEDICAL JOURNAL.

Dr. F. W. Langdon of Cincinnati, Ohio, was elected to honorary membership in the Society.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Stated Meeting, Tuesday, October 16, 1900.

(1313 Bedford Avenue.)

The President, L. S. Pilcher, in the Chair.

There were about 75 members present.

The minutes of the previous meeting were read and approved.

REPORT OF COUNCIL.

The following candidates for membership have been accepted by the Council:

Charles P. Becker, L. I. C. H., 1896.
John Louis J. Gormley, L. I. C. H., 1897.
Joseph B. Kopf, N. Y. Univ., 1895.
Albert S. Nicholson, P. & S., Balt., 1881.
Wm. A. Fiske, L. I. C. H., 1893.

APPLICATIONS FOR MEMBERSHIP.

John J. Carey, 285 Sackett street, L. I. C. H., 1892. Proposed by S. J. McNamara; seconded by David Myerle.

Ernest Schalck, 426 Quincy street, Wuerzburg, 1884. Proposed by H. P. Bender; seconded by Wm. Browning.

ELECTION OF MEMBERS.

The following having been duly proposed and accepted by Council were declared by the President elected to membership:

Edward Pfarre, L. I. C. H., 1897.
Robert Stevenson, P. & S., N. Y., 1899.
Duncan Silkworth, Univ. Bell, 1899.
J. Glen Allen, P. & S., 1880.

The Secretary reported the acceptance by the Council of the resignation of Elizabeth C. Wilkinson on account of removal from the city.

Council also recommended the acceptance of the Watson Library.

Council reported their endorsement of the nomination of W. H. Haynes as Editor of the "Proceedings of the Neurological Society."

SCIENTIFIC BUSINESS.

"The Ultimate Morphology of the Liver in Health and Disease."

(Illustrated by lantern demonstration.)

I. "Histology." By Archibald Murray.
II. "Pathology." By Joshua M. Van Cott.
III. "Bacteriology." By Ezra H. Wilson.

The President stated that at the November meeting certain of the clinical aspects of disease of the liver would be considered in several papers, and that general discussion of the subject would be reserved until after the presentation of these papers.

SPECIAL ORDER OF BUSINESS.

Presentation of Watson Library.

The Secretary read a communication, signed by eight members of the Society, presenting to the Society the Library of the late Dr. B. A. Watson.

Drs. Browning, Burge and Maddren spoke to the subject and the President gave a historical sketch of the Library and its collector, Dr. Watson (see full report, to be published).

Dr. Day moved: That the Society receive this Library and tender its thanks to the gentlemen who have donated it.

Seconded and carried.

NEW BUSINESS.

A communication was read from the Secretary of the Brooklyn Neurological Society, asking for the appointment of a Conference Committee from the Medical Society of the County of Kings in the matter of the care of the inebriate.

On motion of Dr. A. C. Brush, amended and seconded by Dr. McNaughton, it was:

Resolved, that the Committee on Legislation of this Society confer with the Committee of the Neurological Society for the purpose of determining a mode of action in reference to the care of the habitual inebriate.

There being no further business, on motion, adjourned.

David Myerle,
Secretary.

LONG ISLAND MEDICAL SOCIETY.

E. E. CORNWALL, M.D., EDITOR.

The 96th Regular Meeting was held on the Evening of October 2, 1900.

The President, Dr. A. C. Brush, was in the Chair.

The scientific program was as follows:

Trachoma.

By Dr. J. C. Hancock.

As this paper was published in *The New York Lancet* for July, 1900, no further report of it is given here. It was discussed by Drs. N. L. North, Jr., B. W. Collins and P. C. Jameson.

Dr. North believed in the microbe theory of the origin of trachoma, but thought that conjunctival irritation predisposed to it; and in support of this view he referred to the frequency with which trachoma spreads through a family of cigar makers after one of the family has acquired the disease.

Dr. Collins spoke of the use of a two-grain to the ounce solution of potassium permanganate in trachoma, which is highly esteemed in England, and said he had found it curative in two cases.

Dr. Jameson dwelt with particular emphasis on the fact that diseased conditions of the conjunctiva predispose to bacterial infection; he said that the conjunctiva was well able to take care of itself as long as its secretions were normal and its mucous membrane intact, and that one of the practical lessons taught by this fact was the necessity for prophylactic measures against trachoma. He thought that simple catarrhal conditions of the conjunctiva did not always receive the attention which they deserved, for the hyperemic and inflamed condition of the mucous membrane altering its secretions and diminishing its resisting power, produced one of the best possible niduses for infection.

In discussing the various methods of treatment which Dr. Hancock described, Dr. Jameson agreed with Dr. Hancock that local medication, grattage and expression are the best methods; but he said that he had no confidence in the ability of local medication alone to produce a speedy cure except in the more acute cases in which the inflammatory coverings are absent and the trachomatous granules superficial and easily brought into contact with the medicament. In the more advanced cases, where the inflamed mucous membrane is thickened and the granules lie more deeply embedded in it and are surrounded by a slender fibrous capsule, he believed that local medication by itself was futile, and was of value only as an adjunct to operative treatment.

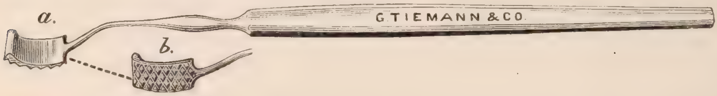
Report of a New Method of Grattage for Trachoma, with the Description of a New Instrument Devised for the Purpose.

By Dr. P. Chalmers Jameson.

It is a clinical fact that in almost every case of trachoma operated on, no matter how thoroughly the operation is done, the deeper granules which fail to be eradicated subsequently appear on the surface in successive crops. The reason for this is that after the destruction of the superficial granules the inflammation surrounding them subsides, allowing the deeper granules to appear. In order to attack and disperse these successive crops of granules the author employs a system of superficial and modified grattage operations with a specially devised instrument.

The handle of this instrument is short and as slender as possible consistent with strength in order that it may transmit to the hand the feel of the surface operated on, and thus enable the operator to judge of the amount of pressure necessary. The blade is one-third of an inch long and one-fourth of an inch wide, and on its convex, operating surface are engrafted numerous rows of small four-sided pyramidal projections, whose apices point forward at an angle of about sixty degrees from the vertical. Owing to this arrangement of the pyramids, the two surfaces in front are near the vertical, while the two behind slant considerably. Where the surfaces meet they make four edges extending from the apex to the base of each pyramid, one looking anteriorly, one posteriorly, and two laterally. These edges, together with the sharp apex of the pyramid, constitute the active operating part of the instrument.

In using this instrument its operating surface is pressed against the granulated mucous membrane of the lid, and the apices of the pyramids are insinuated between the trachomatous granules, the granules themselves occupying the depressions in the instrument between the pyramids. This results in immediate fixation of the instrument. Moving the instrument forward backward or laterally at once brings the trachomatous bodies in favorable contact with one of the four cutting edges, and results in first rupture, and then extrusion of their contents.



Perhaps the most striking feature of this instrument is its selective action on the trachomatous granulations. It does not injure normal mucous membrane. The amount of force necessary to engage and rupture trachomatous granules will, if applied to a normal lid lining, cause the instrument to glide harmlessly over the mucous membrane. This is due to the marked degree of slant of the sides of the pyramids, which render any penetration of the mucous membrane impossible where there are no solid resistive bodies to fix the points of the pyramids and act as a drag against the transit of the instrument.

Another feature of the instrument is its ability to reach with its pyramids the bottom of the crypts between the granules; and it is made in four sizes as to the height of its pyramids, so as to meet the indications of different cases. The sizes are one-twenty-fourth of an inch, one-thirty-sixth of an inch, one-seventy-second of an inch, and one-ninetieth of an inch.

The amount of pressure applicable in each case is shown by the resistive feel of the granules transmitted to the hand of the operator. An increased effect can be obtained by pushing the instrument forward, and a lessened effect by pushing it backward. Lateral motion is less effective than forward, and more effective than backward motion. A combined effect is obtained by a rotary motion. This gradation in effect, is, of course, due to the different angles of the edges of the pyramids.

This instrument is purely selective for granules. Normal and deep tissues are left intact. As there is no well-developed nerve supply to trachomatous tissue, the pain of operation is small. Cocain is the only anesthetic necessary. The reaction is nil in operable cases, viz., those in which there is no marked mucopurulent secretion. When there is such secretion it should be quieted down by local medication for some time before operation.

A New Method of Operating on Deviated Nasal Septum.

By Dr. S. H. Lutz.

In this paper Dr. Lutz advocated breaking up the nasal septum thoroughly before cutting it, instead of after cutting it, thus reversing the usual order of procedure. He was not aware that this method has been employed by others; he had failed to find any reference to it in literature.

He claimed that this method is easier to perform than the ordinary one because the septum can be broken up more easily before cutting than after cutting.

In describing his technique, Dr. Lutz said that he used the straightening forceps first with a rocking motion, and then, if the deflection was in the middle of the cartilaginous portion of the septum, he used the Asch cutting forceps, and if it was high up and far front, he used the Douglas knives; if it was far back he found the breaking-up process sufficient. He always removed spurs some days or weeks before straightening the septum whenever possible.

Dr. Lutz's paper was discussed by Dr. W. C. Braislin, A. C. Howe, H. A. Alderton, and J. M. Clayland.

Dr. Braislin thought that Dr. Lutz's method was original and practicable.

Dr. Howe said that Dr. Lutz's idea had also occurred to him, and that three weeks ago he had operated on a deviated septum, breaking first and cutting afterward, and was pleased with the result.

Dr. Alderton spoke of the difficulty of securing a permanently good result in operations for deviated septum because the elasticity of the septum tended to swing it back to its original bad position. He mentioned the buttonhole operation, which has been devised to overcome the bad effect of this elasticity.

Dr. Clayland said that he once saw an operation for deviated septum in which the septum, bones and all were removed, which did not leave the patient in a very good condition.

Dr. Lutz, in closing the discussion, said that the buttonhole operation was as yet sub-judice. He said that cases which he had operated on by this method early in this year looked well now.

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THE BROOKLYN PEDIATRIC SOCIETY.

WILLIAM A. NORTHRIDGE, M.D., EDITOR.

Tenth Regular Meeting, Friday, September 14, 1900.

The President, Dr. Henry N. Read, in the Chair.

The scientific program consisted of a paper by Dr. Wm. A. Northridge, entitled "Pediatric Malaria."

The paper treated of diagnosis, with a comparison of the symptoms found in the adult with those found in the infant.

It also discussed moderately common types, peculiar types, including simulated meningitis and pneumonia, malarial partial paralyses, chorea, bronchitis, torticollis, diarrhea, and headaches of malarial origin. The paper was based on 576 recorded cases occurring in the practice of the author, and was discussed by Doctors Edson, Walker, Hutchinson, Bartley, McLean, Malament, Kerr, and Read. Doctor Northridge closed the discussion.

WILLIAM WEBB BROWNING, A.M., LL.B., M.D.

HISTORICAL DEPARTMENT.

WILLIAM WEBB BROWNING, A.M., LL.B., M.D.

We hope that many years may pass before we shall again be called upon to record the names of so many of our colleagues who have been summoned from this world of activity to that of rest—men who have been honored, not alone as individuals, but for their high professional attainments. It requires more than an ordinary effort, in this Borough of Brooklyn, where opportunities are limited, to maintain a position above the average; it shows industry, perseverance, and a steady object in view. These qualifications were characteristic of our late associate, Dr. W. W. Browning. As a teacher of anatomy at the Long Island College Hospital he was called upon to fill and manage a chair of practical anatomy. How well he performed his work as instructor or teacher is voiced by the students who attended his lectures; he was practical in his demonstrations and thoroughly understood the subject of his lectures. He added another star to the chair of anatomy in that institution, which has been so ably filled in the past by De Witt Clinton Enos, M.D., Corydon L. Ford, A.M., M.D., LL.D., and Edwin A. Lewis, A.M., M.D.

Dr. W. W. Browning was born in Metuchin, N. J., March 28, 1852, and died in Brooklyn, N. Y., October 3, 1900. His father was William G. Browning of New York, and his mother Susan Rebecca Webb, also of New York. Dr. Browning was married to Miss Sarah Wells Smith of New Haven, Conn., on September 3, 1873. The children were as follows: May Wells, Faith, William Stacey, Eva, Harold, and Emilie Browning.

He was prepared for college at the Hudson River Institute and Amenia Seminary, entering Yale University in 1869, and graduating A.B. in 1873, receiving the degree of A.M. in 1895. From 1873 to 1875 he studied law at Columbia University, receiving the degree of LL.B. in the latter year. From 1875 to 1881 he was engaged in the practise of law in New York City. In 1881 he matriculated as a student of medicine in Bellevue Hospital Medical College, with A. T. Bristow, M.D., of this city, as preceptor, graduating M.D. in 1884. He entered upon the practise of medicine in this city, where he remained during his professional life.

His connection with the Medical Society County of Kings dates from 1884, and the American Academy of Medicine from 1890. At the Long Island College Hospital he was demonstrator of anatomy 1885-'94; lecturer on anatomy, 1886-'95; professor of anatomy, 1895-1900; clinical professor of orthopedics, 1898-1900. He has contributed the following medical papers: "Absurdities and Inconsistencies of Modern Homeopathy" (Gould prize essay); "An Examination of the Influence of the Iliopsoas Muscle upon Rotation of the Thigh;" "Remarks on the Teaching of Practical Anatomy;" Review of A. N. Taylor's book, "The Law in Its Relation to Physicians."

Dr. Browning was a member of Α Δ Φ Yale Chapter, and Independent Royal Arch Lodge, No. 2, F. & A. M., of which he was Master at the time of his death. He was also connected with Aurora Grata Consistory, Scottish Rite Masons, and Kismet Temple, Mystic Shrine.

The funeral services were conducted by the Masonic fraternity.

William Schroeder, M.D.,
Sec. of Hist. Com.

FRANK STEPHEN MILBURY, M.D.

It seems hard to realize that one to all outward appearance in the enjoyment of perfect health, and feeling that many years of usefulness are still before him, should in a few weeks time be called upon to complete his life-work among us and be numbered among those who have gone before. Dr. Milbury was an active and honored member of our profession, just beginning to enjoy the reward of his labors, when death laid its heavy hand upon him. Born in New Brunswick, Canada, on November 28, 1858, he died in Brooklyn, August 28, 1900. His father, Seth Milbury, and his mother, Hanna Giberson, are both of New Brunswick. In 1889 he married Miss Anna Schoeps of Breslau, Germany.

He was educated in the schools of his native place and adopted the profession of dentistry, which he practised for a number of years in Nova Scotia and Mexico. Graduating M.D. from the Cincinnati Medical College in 1888, this was followed by instruction in the hospitals of Vienna, Stuttgart, Edinburgh, London, Paris, and Berlin, returning to New York in 1890 he began the practice of medicine in this city.

FRANK STEPHEN MILBURY, M.D.

During the ten years of his professional life among us he was connected with the following: Physicians' Bedford Eye and Ear Hospital, North Brooklyn Eye and Ear Hospital, New York Eye and Ear Infirmary, and the Manhattan Eye and Ear Hospital; member of the Medical Society, County of Kings, 1891-1900; Long Island Medical Society, New York Physicians' Mutual Aid Association, New York Academy of Medicine, New York State Medical Association, American Medical Association and the Pan-American Medical Association, The Brooklyn Institute of Arts and Sciences, DeWitt Clinton Council, R. A., Congregational Club and the Central Congregational Church.

His medical papers have been as follows: "Insufficiency of the Ocular Muscles," 1897; "Hysterical Amblyopia," 1897; "The Relation of Diseases of the Nose and Throat to the Ear," 1897; "Report of 76 Cases of Cataract Extraction," 1897; "The Relation of the General Practitioner to the Rhinologist," 1898.

William Schroeder, M.D.,
Sec. of Hist. Com.

MEDICAL NEWS.

EDITED BY CHARLES DWIGHT NAPIER, M.D.

It is earnestly hoped that all members of the profession, possessing news concerning themselves or their friends, which would interest others, will communicate the same to the News Editor. Items for this department should be sent promptly to Charles Dwight Napier, 1277 Bedford Avenue.

Dr. John Griffin, ex-Health Commissioner, has been appointed an Associate Superintendent of Public Schools of the borough. To receive this position, one must be a college graduate, and have been a teacher for ten years, both of which qualifications Dr. Griffin possesses.

At the seventeenth annual meeting of the New York Medical Association, the late Dr. E. R. Squibb was elected treasurer. Dr. J. C. Bierwirth is president of the fifth district of the association.

Dr. W. H. Haynes, who has been acting throughout the year as editor of the Transactions of the Brooklyn Society for Neurology, has been nominated to the Council of the County Society for that position. The nomination was confirmed at a meeting of the Council on October 25th.

Dr. Frank E. Wilson of Bushwick avenue, a well-known resident of the 28th ward, has been re-elected to Congress from the 5th district. He is a member of the Medical Society of the County of Kings, and is attached to the staff of the Bushwick Hospital.

Dr. James H. McCabe was successful over Dr. George H. Parshall for Senator from the fifth district. In the seventeenth assembly district, Dr. Henry D. Hawxhurst was the Democratic nominee, but was defeated.

The officers of the Brooklyn Gynecological Society elected for the year 1901 are as follows: President, Joel W. Hyde; First Vice-President, William Maddren; Second Vice-President, Frank Baldwin; Recording Secretary, F. J. Shoop; Corresponding Secretary, O. A. Gordon; Treasurer, L. G. Langstaff; Pathologist, H. P. de Forest.

Dr. Frederick L. Benton, who has but recently recovered from a serious illness at Cavite, P. I., has been transferred to the cruiser "Brooklyn." This will give him a much needed rest, as the duties are not as heavy as at the hospital where he has been stationed.

Dr. Charles S. Williamson announces his return to Brooklyn. He will resume practice at The Ardsley, 148 Hancock street.

Dr. Hugo Lange of Bedford avenue returned about the middle of November from a short trip to Cuba.

Dr. J. Richard Taylor, who has been practising for over ten years in Sag Harbor, L. I., and is now the president of the Suffolk County Medical Society, and a member of the Associated Physicians of Long Island, has removed to Brooklyn, and located at 1275 Bedford avenue.

Dr. O. M. Schwerdtfeger, L. I. C. H., '98, and for the last two years on the house staff of the German Hospital, Manhattan, sailed October 16th for a year of travel and study in Germany. He does not expect to locate in Brooklyn, although his family reside here.

On October 18th, Dr. Louis N. Anderson was married to Miss Laura Chapman, daughter of Mr. and Mrs. Wm. P. Chapman of Elmira; Dr. H. De Haven Cameron was married October 23rd to Miss Mary Edna Beam, daughter of Mr. and Mrs. Henry Beam; November 8th the marriage took place of Dr. John Cochran to Miss May Belle Mason, daughter of Mr. and Mrs. Isaac Mason.

The engagements are announced of Dr. Henry C. Keenan to Miss Nellie Campbell of Herkimer street; Dr. Dudley Roberts to Miss Carrie Steele of Pierrepont street; Dr. Frank H. Knight of St. John's Hospital to Miss Lisette S. Lambert of Seventh avenue; Dr. James E. Thompson, late surgeon, U. S. A., to Miss Iola Maud Plante of Yonkers.

The deaths must be recorded of two of the oldest physicians of Brooklyn, Dr. Carl Dilthey of Lorimer street on October 20th, and Dr. Edward R. Squibb on October 25th.

Dr. H. D. Cameron shortly after his marriage removed to Montana on account of his health. The position of surgeon in Troop C, which Dr. Cameron resigned on his leaving the city, has been filled by the appointment of Dr. Charles A. Brown (Hom., 1895).

The first annual meeting of the Clinical Society of the Bushwick and East Brooklyn Dispensary, was held on October 19th. The following officers were elected: President, J. F. Haller; Vice-President, L. J. Cardona; Secretary and Treasurer, Alfred Bell. After the meeting an old-fashioned German dinner was served.

On November 4th, Sunday evening, a special memorial service was held in the Library Building to commemorate the character and labors of the members of the County Society who died during the year. Eulogies were pronounced by Drs. Bartlett, Van Cott, Hunt, Schroeder, Benton, Fowler, Raymond, Fuhs, Day, and Bartley.

Dr. Wm. H. Thompson, president of the New York Academy of Medicine, read a paper on "Classification of Medicine," November 9th, before the Section on Materia Medica and Therapeutics.

At a meeting of the Broadway Board of Trade, held November 15th, Dr. George W. Brush spoke on railroad legislation, upon which subject ex-Senator Brush is an authority.

The by-laws of the Section on Ophthalmology of the Medical Society of the County of Kings having been accepted by its Council, the section will hold its first regular meeting in December. The officers of the section are: Chairman, A. Mathewson; Secretary and Treasurer, P. Chalmers Jameson; Executive Members, J. S. Prout, N. L. North, Jr., and Wm. Simmons.

The Third Pan-American Medical Congress will be held in Havana, Cuba, December 26, 27, 28, and 29. Those intending going should write the secretary of the commission on organization, Dr. T. V. Coronado, Havana. Upon the number going will depend the special rates to be secured.

It is expected that at some time after the first of the year, an address will be delivered before the County Society by President Jordan of Leland Stanford University.

At a recent fair held for the benefit of the Norwegian Hospital, about $1800 was realized, a portion of which will go into the building fund to be used in the erection of a fine building on an adjoining corner lot which the hospital now owns.

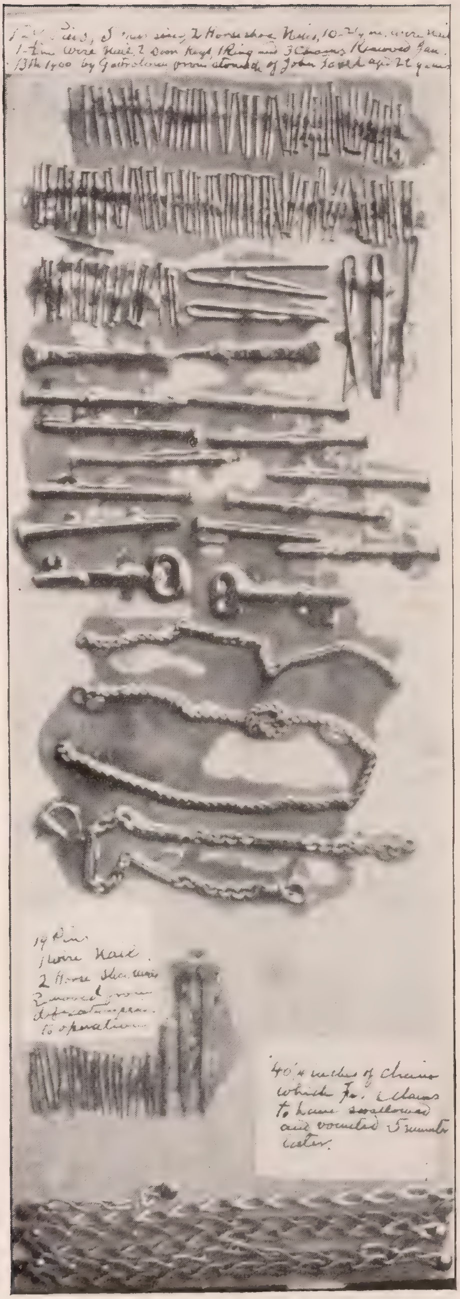
The comptroller of the treasury has decided that contract surgeons or acting assistant surgeons in the army are neither officers nor enlisted men, and therefore not entitled to the 10 per cent. increase in pay authorized under the law of May 26, 1900.

The news editor desires that the above note will act as a reminder of the request previously published in this column, that Brooklyn physicians, who enlisted in the service in 1898, send a record of such service to the editor for future publication.

Dr. George G. Hopkins, who was a delegate from the American Medical Association to the International Congress at Paris, spent about seven weeks in Europe. He went especially to study the treatment of Lupus by decomposed light, as used by Prof. N. R. Finsen of Copenhagen. He was much pleased with the results of the treatment, and brought home with him the apparatus. On the other side he met Drs. Fred. J. J. Wood, G. R. Fowler, D. G. Bodkin and J. B. Zabriskie.

Dr. Henry R. Rice, after an extended trip to Europe, has returned to Brooklyn and located at 163 Hancock street.

The second annual graduating exercises of the Kings County Hospital Training School for Nurses were held November 15th in the chapel attached to the County buildings on Clarkson street. Addresses were made by A. H. Goetting, Commissioner of Public Charities; Dr. A. T. Bristow, Rev. Father Woods, and Rev. Dr. Cornelius Twing. The graduates, who numbered fifteen, received each a silver pencil and a nurse's pocket-case.


Pins, 5 ..., 2 Horseshoe Nails, 10-2¼ in. wire Nail
1-Fine Wire Nail, 2 Door Keys, 1 Ring and 3 Chains Removed Jan.
13th 1900 by Gastrotomy from stomach of John ... age 22 years
14 Pins
1 Wire Nail.
2 Horse Shoe nails
Removed from
operation
40¼ inches of chain which Jo. claims to have swallowed and vomited 5 minutes later.

FOREIGN BODIES IN THE STOMACH.

Presented by GEORGE B. HOPKINS, A.M., M.D.

THE BROOKLYN PATHOLOGICAL SOCIETY.

HENRY P. DE FOREST, PH.B., M.S., M.D., EDITOR.

The 414th Stated Meeting, Thursday, May 10, 1900.
(Continued.)

The President, CHARLES C. HENRY, M.D., in the Chair.

Program.

SECTION VIII.—EZRA H. WILSON, A.B., M.D., CHAIRMAN.

The Importance of Bacterial Examinations of Public Water Supplies 974
Ezra H. Wilson, A.B., M.D.

Neoplasm of the Velum Palati, Report of a Case 981
William F. Dudley, A.B., M.D.

Foreign Bodies in the Esophagus; Specimen; Illustration . 987
Stanley G. Clarke, M.D.

Spontaneous Rupture of the Esophagus; Specimen 990
William A. Payne, M.D.

Foreign Bodies in the Stomach; Specimens; Illustration . 990
George G. Hopkins, A.M., M.D.

Intestinal Perforation Due to Excessive Use of Irritant Cathartics; Specimens; Autopsy 992
Henry P. de Forest, M.S., M.D.

The 415th Stated Meeting, Thursday, June 14, 1900.
(The Thirty-first Annual Meeting.)

The President's Address 994
Charles C. Henry, M.D.

The Secretary's Report 996
Henry P. de Forest, M.D.

Election of Officers 998

The Importance of Bacterial Examinations of Public Water Supplies.

By Ezra H. Wilson, A.B., M.D.

Inasmuch as bacteria are universally present in the air, it naturally follows that all surface waters, such as lakes, ponds, and running streams, contain bacteria in varying numbers. Only waters coming from deep wells and springs are comparatively free from them. The winds and the rains carry into the water from the air and the soil, bacteria which, finding suitable surroundings as to temperature, moisture, and a certain amount of organic pabulum, grow and multiply. So we must consider our surface waters as a normal habitat for a certain number and certain species of the bacteria.

It is impossible to fix a natural standard as to the limit of bacterial contents of a drinkable water: indeed, evidence goes to show that a considerable number of certain species of bacteria may exist in a water and not render it unwholesome or unpalatable. The bacterial contents of a water is directly proportionate to the degree of its pollution by man. Nature never pollutes a stream; human habitations do. They do this in two ways; first by contributing pathogenic species to the stream, and, second, by furnishing in the sewage an amount of organic matter which serves as a culture-medium for all classes of bacteria. We may state in a very general way that water containing less than 100 bacteria per cubic centimeter is unusually free from them and presumably came from a source uncontaminated by surface drainage.

Water that contains more than 500 bacteria per c.c., although in many cases harmless, must be looked upon with suspicion; and water containing 1000 or more bacteria per c.c. is presumably contaminated by surface drainage and should be filtered before using for drinking purposes. The danger does not depend directly upon the number of bacteria present in the water, but upon contamination with pathogenic species from surface drainage and sewage. In swallowing a glassful of pure spring water, a number of bacteria from the cavity of the mouth are washed into the stomach, which, if counted, would doubtless exceed in numbers those found in badly polluted river water.

The bacterial examinations of water are of two kinds: quantitative and qualitative; and the objects of the examinations are threefold: First, to decide the question of sewage pollution; second, to test the efficiency of filtration; and third, to reveal the presence of distinct pathogenic species, such as typhoid, cholera, and the organisms of dysentery.

A quantitative estimate of the bacterial contents of a water consists in determining the number of bacteria contained in 1 c.c. of such water, and is made as follows: A sample of the water is collected from below the surface in a sterile receptacle, and is either packed in ice and immediately removed to the laboratory, or, what is preferable, immediately plated in nutrient gelatin. The need for these precautions is apparent when we consider the enormous rapidity with which bacteria multiply, and a delay of only a few hours with no precautions to inhibit this multiplication will entirely vitiate the result. A known quantity of the water, usually 1 c.c., is mixed with about 5 c.c. of nutrent gelatin which has been fluidified by warming, and the mixture poured into a sterile Petri dish. The gelatin is allowed to set, and the dish is then placed at room-temperature for forty-eight hours when the resulting colonies are counted, either with a hand lens or under the microscope. This gives the numerical bacterial content without regard to species, and by it we are able to judge, in a general way, of the degree of pollution, and to recognize the variations in waters from different sources. As long ago as 1871 Burdon-Sanderson showed that both filtered and unfiltered water, ice-water obtained from the purest ice, and even distilled water which had been recently prepared, contained bacteria. This was before the days of solid media, and the technic was crude. With the advent of modern methods, much more extended and definite information has been obtained as to the number and the conditions under which bacteria gain access to, and exist in, various waters.

Snow.—A considerable amount of work has been done, especially in Russia, in the bacteriology of snow. It has been found to contain from 3 to 178 bacteria per c.c.

Ice.—An elaborate series of investigations on the bacterial contents of ice has been carried on in Berlin by C. Fraenkl. The numbers varied from 21 to 8800 per c.c. The multiplication of bacteria, which may take place after the melting of the ice and standing of the ice-water, is very striking. A piece of ice was melted and examined immediately and found to contain 1220 bacteria per c.c.; this ice-water was then allowed to stand for eleven days, and then found to contain 220,000 per c.c.

Hail.—Examined by Bujwid and later by Fontin. Hail in Warchau contained 21,000 and in St. Petersburg only 729 per c.c.

Rain.—Miquel found 4.3 in rain collected at the Montsouris outside Paris, and 19 in rain collected in the middle of the city.

Waters exposed to contamination will contain very large numbers of bacteria. Thus Miquel found as many as 40,000,000 per c.c. in the waters from the laundries along the Seine. Wahl found in the drainage of Essen from one and a half to five and a half millions per c.c. Raw sewage contains from ten to twenty millions.

Rivers.—Since the epidemic of cholera in Hamburg in 1892, a tremendous amount of work has been done all over the world to ascertain the bacterial contents of different rivers supplying large cities with water. London derives most of its water-supply from the Thames and the Lea. Frankland found in Thames water, collected at Hampton during three years, numbers varying from 1130 to 92,000. The same observer found in Lea water, collected at Chingford during the same three years, from 1124 to 121,000 per c.c. Miquel found in Seine water the average for the year (examinations being made monthly) to be 32,530. In another series of experiments Miquel has collected Seine water from above and below Paris, and also at St. Denis after it had received the drainage of Paris. He found at Choisy, above the city, 300 per c.c.; at Bercy, in Paris, 1200, and at St. Denis the number rose to 200,000.

Wells.—A great amount of work has been done on the examination of well water for bacteria, but the results have not been reliable because of errors in collecting samples; the principal source of error has been due to the samples having been collected irrespective of whether the pumps have been in operation or not. If the water has remained stationary for a length of time, opportunity is afforded for the extensive multiplication of bacteria. So it will be seen that a representative sample can only be obtained after the pumps have been in operation for a time. As an example of this source of error, Frankland found from a representative sample in a well, 7 bacteria per c.c.; after standing for one day at 20° C., 21; after three days, 495,000. The bacterial content of a well will depend largely upon the nature and source of the water gaining access to it. If it is surface water, the numbers will be large, and if it is ground water and the soil is sandy, it will be small. No more instructive data exists than that accumulated by the work of the Brooklyn Board of Health at the laboratory at Rockville Center. Here the waters of all the wells in the supply were examined and the results were that from sterile water at Forest Stream all gradations were noticed up to 5000 per c.c. at Spring Creek.

Spring Water.—The number of bacteria in spring water protected from chance contamination is usually very small, and in some cases none at all have been found.

Pathogenic Bacteria in Water.—In 1878 Pasteur found that animals into which he had injected some impure water, developed symptoms of septicemia. In 1885 Schuschuy and Fodor infected rabbits in the same way. Gaffky inoculated rabbits with impure water and isolated from their blood the bacillus of rabbit septicemia. Lortet injected the filtrate from the Rhone water into guinea-pigs and they rapidly died of septicemia. The bacillus of tetanus has been found in the sediment of river water at Lyon by Roux, and Miquel has also found it in the Seine. Anthrax has been found in well water. The specific organisms of cholera, typhoid fever, and dysentery have been found in water by Koch, Widal, and Flexner. It is unnecessary to go into detail as to the various methods employed in the detection and isolation of these pathogenic bacteria, but the fact of their presence emphasizes the importance of bacterial examinations of potable waters.

Sewage Pollution.—All sewage that has received human feces contains the bacillus coli communis, and as this organism possesses certain biological characters which are well understood, this knowledge can be applied in a practical way, to determine the question of sewage pollution of water used for dietetic purposes. This bacillus possesses the power, if grown in a medium containing sugar, of splitting up the sugar and causing the evolution of gas. If, therefore, a water suspected of sewage pollution is mixed with a nutrient medium containing sugar, and the mixture placed in the incubator in fermentation tubes (U tubes, having a closed arm like a ureometer), in a few hours it will be seen that the medium is turbid and that a quantity of gas has been evolved in the closed arm of the tube. Now, water which is free from sewage pollution, as a rule, contains no gas-forming bacteria, and the presence of gas in this test is strong presumptive evidence of pollution, but it is barely possible that gas-forming bacteria other than B. coli communis may be present, so the specimen is subjected to a further test. The B. coli communis possesses the power of rendering an alkaline medium acid and of coagulating the casein of milk; so we prepare some tubes of sterile milk, to which blue litmus has been added, and inoculate these from the fermentation tube. If, after twenty-four hours in the incubator, we find that the litmus has turned red and the casein has been coagulated, we are very certain that we are dealing with the B. coli communis. The two chemical ingredients of a water which indicate sewage pollution are chlorine and albuminoid ammonia; one of these may be contributed by the admixture of sea water and the other by decaying vegetation, but the presence of the B. coli communis in a water can only mean one thing, namely, sewage pollution.

Sand Filtration.—Recent bacterial investigation has furnished us with information which leads us to view the problem of water-purification from an entirely new point of view. Formerly, the chemical standard was the criterion as to the potability of water, but we have now a far more delicate test of the efficiency of purification processes in the biological examination to which a water can be submitted. A water may be suspected of containing sewage, and yet from a chemical point of view be passed upon as harmless, where a proper biological examination will point out the danger. Chemical analyses of water as a basis of opinion as to the value of filtration are not of much value. The following chemical analysis of river water before and after sand filtration will suffice to explain why the process of sand filtration found comparatively little favor so long as the chemical analysis was the basis on which opinion was formed as to its hygienic value.

Chemical Analysis of Water of the River Ouse before and after Sand Filtration (Percy Frankland).

RESULTS EXPRESSED IN PARTS PER 100,000.

	River water.	After filtration.
Total solids	28.40	26.20
Organic carbon	.123	.119
Organic nitrogen	.025	.022
Ammonia	.0	.0
Nitrogen as nitrates and nitrites	.077	.089
Total combined nitrogen	.102	.111
Chlorine	1.6	1.6
Hardness		
Temporary	11.5	10.9
Permanent	7.1	7.1
Total	18.6	18.0

Such slight chemical improvement, as is here shown, indicates that sand filtration has comparatively little effect on the dissolved matters in the water, and it was assumed that it would be unlikely to remove bacteria. It is less than fifteen years ago that this point, the bacterial side of the question, was put to the test of actual investigation, and during this time an immense amount of work has placed the subject of water purification on an entirely new basis.

The astonishing effect of sand filtration is shown in the following table:

PERCENTAGE REMOVAL OF BACTERIA.

	Thames.	Lea.
September	97.8	....
October	96.5	....
November	98.9	98.5
December	98.5	88.8

On another occasion, out of every 100 bacteria present in the untreated river water there were removed:

	1886.	1887.	1888.
Thames	97.6	97.7	98.4
Lea	96.5	95.3	95.3

Hoagland Laboratory.

DISCUSSION.

Dr. William Browning observed that from Dr. Wilson's paper it was evident that the methods of technic in water analysis, so far as determining its fitness for drinking were concerned, had changed materially in the past decade, and former opinions must of necessity be revised.

Dr. Robertson recalled the stories of the contaminated water in the Bernares district in India where, as a result of numerous pilgrims from all parts of the East washing in the sacred stream, cholera germs are continually imparted and the water continually defiled with this potential disease.

It has been stated by some writers that, although at any time a cup of water taken from any point around Bernares is at first swarming with micro-organisms, in a short time putrefactive germs multiply so materially that the cholera germs are forced to disappear.

Dr. Wilson said that although it is a fact that saphrophytes might, and at times do, crowd out the pathogenic organisms, such a water could hardly be considered as a potable water, the water under discussion.

Dr. de Forest requested the author of the paper to add to the value of the paper for those living in the city by speaking of the relative values of the numerous kinds of household filters that are brought to our notice from time to time.

The President (*Dr. Henry*) added that he, too, would like to be informed about the value of filters, especially that form made from "kisselguhr," in the shape of a large basin and used particularly in the tropics. In this, 20 gallons may be placed at once and filtered slowly through into an earthen crock, being cooled at the same time.

Dr. Wilson; in reply, stated that much depended upon the material used in the construction of the filter itself. In filtration upon a large scale a perfectly working filter will remove about 98 per cent. of bacterial impurities; such a plant is now used at Hamburg. Much more perfect filtration can be secured than that, in smaller amounts.

For household use, in order to separate the bacterial product from the bacteria themselves, a filter with a close mesh is best used, such as kisselguhr or porcelain, but under rather more pressure than the Brooklyn water-mains are able to furnish.

The Pasteur filters are almost useless in this city because of the insufficient pressure, but for the Bergfeld variety there is a pressure enough and, if properly cared for, it ought to give a germ-free filtrate for a month; after that the candle must be resterilized, and begin again.

The Globe reversible sand filter is of doubtful value, for the problem is not purely a mechanical one. At the Lawrence experiment station in Massachusetts it was found, after careful examination of sand filters, that a new sand filter was not so efficacious as one that had been in service for a time. Around each grain of sand after a time of use there forms a little gelatinous covering, which is a material factor in the retention of the bacteria. It is, therefore, a biochemical arrangement, and to reverse such a filter is to disturb the very element upon which its efficiency depends.

The Chamberlain filters are, in Brooklyn, open to the same objection as are the Pasteurs: for drinking purposes it is with our water-pressure almost impossible to get water fast enough.

The majority of filters of natural earth or of natural stone are, as a rule, unreliable because natural stone contains crevices, and the very next turn of the lathe in process of manufacture may reveal a crevice which would spoil the value of the filter.

Kisselguhr is an infusorial earth found in the vicinity of Hamburg. This is ground up like flour, and pressed into cylindrical molds, thus securing a homogeneous product and one that is looser in mesh than the Pasteur and better adapted to our water-pressure. While the large variety mentioned by Dr. Henry may be used in the tropics, it is not listed in the ordinary catalogue.

In my own laboratory and home I use a Bergfeld filter, and would not hesitate to recommend it. It is used by the government in the army, in the Philippines and in Cuba; Dr. Sternberg and I examined the first ones brought to this country. One that was tested gave absolutely sterile water for twenty days; resterilizing the candle, after a few organisms began to appear, restored the filtered water to sterility.

Brooklyn water in the summer becomes foul because of the development of diatoms, and the turbidity we see in the water is due to the same cause. This is due to the fact that in reality we have no storage reservoir in the city; Ridgewood is really a distributing reservoir. The peculiar organism that causes most of the trouble grows in ponds and seeds the reservoir. Two-thirds of our water-supply comes from driven wells, and such water, not having come in contact with the air or sunlight, is rich in unoxidized elements. When this immense volume of a good culture-media is thrown into a reservoir seeded with the asterionella a tremendous multiplication of this diatom results. It is harmless but disagreeable, of course.

Diatoms will rapidly clog up a filter intended for bacteria. It would be best to have a preliminary sand filtration to get the "logs" out and then, if the pressure was sufficient, filter through a Bergfeld filter. This is simply a matter of detail and care of the filter. If the filter begins to yield slowly, take the candle out and scrub off the thick brown deposit that forms rapidly during the summer months when diatoms multiply most rapidly.

Neoplasm of the Velum Palati, Report of a Case.

William F. Dudley, A.B., M.D.

I have some hesitation in designating the histologic nature of this growth by a distinctive name. It presented some rather unusual clinical appearances, and surgical interference was well tolerated. Microscopically, it would seem that the tumor was originally benign, but at the time of excision was in a stage of transition, for it shows some evidence of assuming a malignant character. Therein lies its possible interest to the pathologist.

Personal History.—My patient is a man, 71 years of age. He has led a moderate and regular life, and has been remarkably free from any serious illnesses. At 11 years of age he had acute otitis media in the left ear, caused by the explosion of a fire-cracker near his head. Since then there has been a slight fetid discharge of pus from the ear. The tympanic membrane is now absent and his hearing on that side, by air conduction, is quite lost. At 22 years of age he had rheumatism in his lower extremities, no recurrence. Two years ago he had acute cardiac dilatation from severe exertion in hill-climbing, but now has fair compensation.

For twenty years he has worn false teeth fixed in hard-rubber plates, upon both upper and lower jaws. The dental plates were so well fitted that for 18 years he did not again consult his dentist, Dr. Fuller.

He had had two small cystic tumors of the scalp; one ruptured spontaneously and one was excised. In boyhood he had numerous warts on his hands. I believe the warts were treated by caustic acid. Syphilitic infection is denied, and the tumor was in no way suggestive. He used wine temperately, and has smoked cigars since he was 16 years old; for the last twenty years he has averaged twelve per day. He uses a mild domestic cigar, but is a "hot smoker"; that is, he cuts a large piece off the point of the cigar and smokes up the cigar rapidly. He does not inhale the smoke lower than the oro-pharynx and does not exhale it through his nose. I detail this because the incoming smoke-current constituted for many years a considerable irritant to the affected mucous surface, the hard palate having been protected by the dental plate.

Present Illness.—The patient believes the tumor has existed for two and one-half years, but is not positive. He is certain it caused him no inconvenience until last June, when deglutition was attended by discomfort, which by August amounted to pain. He then first consulted his physician, Dr. McCorkle, who referred him to me. The increasing dysphagia seriously affected his nutrition, so that in six months his weight decreased from 172 pounds to 144 pounds. His sputum has been free from blood, but he has been much annoyed by an excess of saliva.

His first visit to me was on October 30th. There were then three growths on the anterior surface of his soft palate. The largest mass was almost circular in shape, was 7/8 inch in diameter and projected from the palate surface $^3/_{16}$ of an inch. The exposed or inferior surface was flat, slightly more prominent toward the center than at the periphery. At the attached base there was a constriction, forming a sulcus $^1/_{16}$ inch in depth around the entire circumference. The neoplasm was equidistant from both lateral buccal walls. Its anterior margin was 1/8 of an inch posterior to the edge of the hard palate and 1/4 of an inch back of the rim of the dental plate. The flat surface of the tumor was grayish-white, very sensitive to the probe, but not inclined to bleed. The body of the mass was evenly firm, but the surface was slightly nodular and looked soft and pulpy, resembling in color and consistence the detritis that commonly coats the dorsum of the tongue in digestive disorders. The color became dark gray at the margin and purple-black at the lateral walls.

Two smaller tumors existed on the anterior surface of the soft palate, each ¼ of an inch in diameter, one at the edge of the hard palate and the other near the free edge of the velum. Excepting their size, they closely resembled the large parent mass.

Rhinoscopic examination showed the superior or nasopharyngeal surface of the velum to be normal and free from any thickening opposite the bases of the tumors. No zone of acute inflammation surrounded the sites of attachment, although a mild passive congestion was general to the mucous membrane of the pharynx, such as is usual in elderly persons. There was absolutely no granular enlargement.

I removed the two small neoplasms with a Bosworth snare, and sent one of them to Dr. Van Cott for microscopic examination. He promptly reported November 3d: "That examination of sections of the material reveals it to be composed of a papilloma, underneath which is a very lawless carcinoma, which is evidently in the process of metastasis, as plugs of abortive cells can be seen in lymphatic spaces. Any operative work must be radical to get beyond the malignant tissue."

Both wounds healed within a week. The former sites of these two tumors are now covered by apparently healthy mucous membrane, and it is not possible to tell where the cuts were made.

I called Dr. Jonathan Wright in consultation November 7th, and I then snared off a fragment from the edge of the large mass and gave it to Dr. Wright for examination. It was not a satisfactory piece of tissue, being largely surface growth, but the patient would not then allow more extensive cutting. Dr. Wright gave me a verbal report, and said the fragment was suspicious, but he preferred not to commit himself, until he received a specimen including more of the base of the neoplasm.

Soon after this several members of the patient's household had epidemic influenza, and he himself had a pronounced pharyngitis and inflammation of the left faucial tonsil. The tumor was also acutely inflamed, became exquisitely tender, and about ⅛ of an inch more prominent. The pharyngitis subsided in a few days and the tumor returned to its former condition, excepting some increase in thickness, and a greater amount of white, pulpy material on the surface, composed, probably, of desquamated cells.

On February 18th I excised the entire tumor, using a cold-steel wire snare, No. 3 piano wire. Dr. Wright was present and granted me his welcome advice and assistance. I made no effort to go deeply below the surrounding mucous surface, as I feared the snare would pinch up the entire thickness of the velum and made a button-hole through into the nasopharynx, which might be permanent. As the wire loop was being contracted, the tissue cut hard, and it required all my strength and some of Dr. Wright's to exert sufficient traction to draw the wire home. The bleeding was free at first, but soon checked; about an ounce was lost, and there was no secondary hemorrhage. That evening the patient enjoyed his dinner for the first time in some months, and has been absolutely free from pain since. The wound healed in ten days, leaving a small stellate cicatrix, exactly flush with the surrounding surface.

The patient then went South and in three weeks gained 7 pounds in weight. He now claims that he feels perfectly well. I examined him yesterday and found no signs of recurrence on the velum, eight weeks after operation. I found, however, a small, hard pimple, about four times as large as the head of a pin, situated on the dorsum of the tongue in the median line, one inch anterior to the apex of the circumvallate papillæ. It was not sensitive, or characteristic, but it was not there two weeks ago.

The following is the report of Dr. Wright upon the findings in the large tumor.

After a careful examination of the microscopical appearances in the growth removed from the soft palate of Mr. N., on February 18th, I am unable to find any positive evidences which I regard as sufficient to establish the diagnosis of malignant disease. Owing to the comparative slowness of growth, lack of circumjacent infiltration and of glandular metastasis, the non-recurrence of neighboring daughter islands, I see no other conclusion than that the growth is at present of a benign nature. I am therefore fully in accord with you as to the advisability of its extirpation by such means as his general condition will permit, rather than entertaining the opinion that it should be left alone or the patient subjected to the danger of a radical operation involving great danger *per se*.

February 26, 1900.

The entire comfort of the patient, his steady gain in nutrition, the non-recurrence of the neoplasms, and the absence of any evidence of glandular infection, inclines me to conclude that the conservative operation was preferable in this case. But the elapsed time since excision is too short to make me confident of a favorable prognosis. Nor should the pathological reports be regarded as entirely discrepant. None of my cuts went deeply into the bases of tumors below the natural surface of the mucous membrane, and it is quite possible that Dr. Van Cott's specimen included slightly more of the underlying tissue, which is essential to a thorough diagnosis by the microscope.

A benign neoplasm may assume malignancy and this development is first definable in the basic structure. Few problems make greater demands upon the judgment of the surgeon than to determine the proper extent of operative measures in these border-line cases. When the clinical history and the macroscopic appearances are not alarming, the one thing that can disturb the serenity of the situation is the report of the pathologist; and it is manifest that at such a time the strongest and most convincing plea of the surgeon for free operative privilege, must be based upon the report of pathologic findings.

The deduction, which I submit, is that a diagnostic conclusion is not infalliable, and, further, I would urge the importance of careful consideration of the clinical history and aspect before determining upon radical surgical measures for the eradication of neoplasms.

[NOTE: At the time of publication, December 1st, over a year after the patient was first seen, and nine months after the growth was removed, there has been no recurrence. The patient has gained 18 pounds in weight and appears entirely restored to health.]

32 Livingston Street.

DISCUSSION.

Dr. Van Cott stated that the diagnosis in this case was difficult. The major part of the relatively small mass which was submitted for microscopic examination was composed of islands of thoroughly typical cells from the rete Malpighii. These, when separated, were separated by the usual strands of connective tissue, and the whole appearance was that which characterizes an ordinary papilloma. At the bottom of the growth, however, the border-line had lost its clearness, it was not so sharply defined from the connective tissue, while at the same time there was a tendency for the cells of the rete to grow downward in an irregular manner. This was only seen in one or two places. At another point was a growth of cells within a lymph space.

Here is a case of a man in the katoplastic period of his existence, right within the zone of carcinoma; he had a tumor in a place where carcinoma is certainly known to occur. He had a neoplasm which can, by retroacting, become carcinoma; there were, moreover, areas in the tumor which had lost the characteristic features of a papilloma. In his judgment, based on these findings, there were the elements which would indicate carcinoma, and that, he felt, to be the status of the case. The surgeon must decide as to the proper course to pursue.

Dr. Wright was sorry not to be able to agree with Dr. Van Cott's dictum in the matter, for it did not seem to him that the microscopic appearances have presented any evidences at all of malignancy. Dr. Van Cott bases his opinion upon the fact that the epithelial cells drop off into the lymph spaces. Where sub-adjacent tissue is reached at all this, without doubt, is true; not only in the specimen first removed but also in the whole growth. Nowhere, however, did Dr. Wright find any great multiplication of these cells after they had been given off from the surface, nor was there the island growth of epithelioma that he is accustomed to require before making a diagnosis of carcinoma; that is, no separate growths; where the cells dropped off into epithelium it was a gradual dropping and gave no evidence of growth separately from the parent one of the surface.

Taking the man's age into account and the white appearance of the growth, the impossibility of giving it any name than epithelioma led him to tell Dr. Dudley that he thought in all probability it either was or would be malignant. The microscopic findings did not, in his opinion, warrant that diagnosis, but he was unable to make a positive one until he had more of the growth. After examining the whole of the growth as it was removed, a mass an inch across, it would seem that an epithelioma, of characteristic islands of tissue, ought to be found, but he did not think the microscopic appearance warrants such a diagnosis at present, whatever changes may eventuate.

A striking point in the clinical aspect of the case is the fact that this growth was not removed, as one would remove carcinoma or epithelioma of the lip, making a wide incision and taking the growth out. This was not done. A great deal of this epithelial tissue was left behind in the base of it. If there is one thing we know about epithelioma and carcinoma, it is that such an operation only hastens and increases the malignancy of the growth. In this case, very much to his surprise, the whole wound healed over smooth and flat inside of a few days.

He regards this case as unique, for he had never run across such a case in his experience, and had never seen the report of any such case in laryngeal literature. Squamous patches are sometimes seen, and that is what he thinks it is; squamous patches, in which one layer of cells after another is heaped up into a circumscribed mass, rather than a flat patch like we get in syphilis. These squamous patches are very apt, after fifteen or twenty or thirty years, to break down into epithelioma, and if this man lives a long time I should not be surprised at all to see it recur.

Dr. Dudley agreed that it is but fair that the operator should give the pathologist every clinical liberty in examining the case if possible, as well as in presenting to him a clear history of the case; it is but justice to Dr. Van Cott to say that he has never seen this case, and the history to him was certainly incomplete. Dr. Wright saw the case before and after the operation.

The appearance of this patient is one of perfect comfort now, with entire absence from pain and the absence of any glandular involvement, but it is morally certain that all of that neoplasm was not removed, for he did not dare to. One of the conditions of operation, indeed, was that an opening into the patient's nasopharynx should not be made. His rapid improvement under such conditions certainly indicates most strongly, from the clinical standpoint, that this was a benign growth, whatever its future tendency may be toward malignancy.

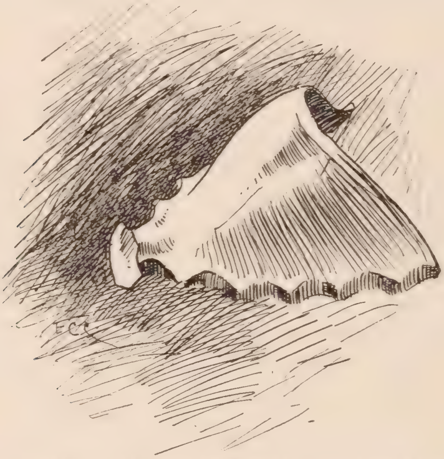
Foreign Bodies in the Esophagus; Specimen; Illustration.

Stanley G. Clarke, M.D.

A young man recently came to me with a sore throat, and suffering from dysphagia. I found he had not been able to swallow solid food for about eight days. I obtained the following history from his mother: Eight days before she had discovered him with convulsive movements and had sent for a physician. Her son was partially unconscious at that time. The physician gave him such antispasmodics as seemed to be necessary in the case and afterward made several visits, made out a case of tonsillar pharyngitis, and treated him several days. The patient did not make known to him that a tooth-plate had been swallowed, so he did not have anything upon which to base a correct diagnosis of the case. The young man did not progress favorably, and the doctor being absent from the city, the patient called at my office.

The larynx was congested and on further examination I thought there was a foreign body in the esophagus. This I endeavored to extract with the most convenient instrument I had at hand—a bristle probang. I passed it down below the cricoid cartilage and found the foreign body. I hoisted the umbrella as it were, and pulled it up, but did not succeed in pulling out the foreign body. I passed it down again and this time pushed the obstruction further down into the cavity of the stomach. The man expressed himself as very much relieved in symptoms and felt better; he drank water and also ate a crust of bread. As he seemed somewhat weak from trying to pass it twice, I allowed him to go home. The next morning he presented himself for treatment again. I sprayed the larynx and applied some other treatment. The same afternoon he was seized with an attack of vomiting and, with the assistance of his finger, recovered the plate with the tooth on. It is about an inch and three-eighths in diameter, broad, and about as wide, as well shown in the illustration. This is somewhat larger than the plate of a similar character that was recovered by operation on the esophagus by Dr. McLane of New York, published in the *Medical Record,* which had been in the esophagus ten years, and been encysted, and caused the man's death after the operation.

I have found the bristle probang a useful instrument. Some years ago I was called to a little girl of six, who had swallowed a pin. I passed a bristle probang into the esophagus and when withdrawn in its meshes lay the pin.



FOREIGN BODY IN THE ESOPHAGUS.
Presented by STANLEY G. CLARKE, M.D.

Last Saturday night there was a porter in a carpet-house on Broadway came to my office and said he had swallowed a tack. I could not locate it exactly, but he had constant pain in the side of the neck and had a suffocating feeling, and was very much alarmed and nervous. I pushed this bristle probang down and must have removed the tack; but as I attempted to hoist the umbrella in bringing it up, the whalebone became detached from the end to which it should be properly secured. It is reprehensible for an instrument-maker to make such a defective instrument; such an accident might be the means of preventing us from saving life.

The tack entered the stomack and was, in a few days, passed through the rectum, none the worse for its experience.

694 Halsey Street.

DISCUSSION.

Dr. de Forest: A year or two ago it was my fortune to write an abstract of a long German article on foreign bodies in the esophagus, which was printed in the *Annals of Surgery.* I was surprised to learn that of all the foreign bodies found in the esophagus, false teeth were the most common; the history of most of them is far different from the history Dr. Clark has just related to us. It is remarkable that a plate with such sharp points should ever have passed down into the stomach in the first place, and that it should have come back of its own accord, is still more remarkable.

A great number of cases of perforation of the esophagus have been caused by similar plates, and in one of the text-books in which the matter is treated at some length, a number of cases are reported where similar plates have lodged in the esophagus and have remained there for some time: in one case six and in another ten years.

Necrosis occurs and perforation of the wall results. This is the exception case and is interesting as showing what Nature will do occasionally when the circumstances are favorable.

The President (*Dr. Henry*): An instance allied to this occurred in the practise of Dr. Marshall of Philadelphia. He was treating a young woman for laryngitis of two-years' standing. He was using his probang to make an application to her throat and she made a convulsive movement, which forced the probang down into the larynx, and as he brought it up he brought a quill toothpick with it, which evidently had been there during the entire two years, and had become encysted and had caused all her laryngeal difficulty.

Dr. Sherwood called attention to the difficulty of getting a correct history from the patient of having swallowed a foreign body. The patient may say something has been swallowed when that is not the case. In the Methodist Hospital recently I saw a woman of rather neurotic temperament, who was very positive she had swallowed her set of false teeth. Examination was made and the foreign body was not detected. Before a more thorough examination could be made and a bougie passed, her husband rushed wildly into the hospital and said the teeth had been discovered in the folding-bed.

Dr. Robertson related a similar experience. A lady came to his office who was quite sure she had swallowed her teeth. I made a laryngoscopic examination and passed a probang, but failed to detect anything. She said she had gone to bed with the teeth in her mouth, but failed to find them in the morning; and she came to my office for several weeks complaining of indefinite pains in the abdomen, but she never discovered her teeth. This was a larger plate than Dr. Clark shows and it seemed impossible for anybody to swallow such a large mass and that it would really pass into the esophagus.

Esophagus; Spontaneous Rupture; Specimen.

William A. Payne, M.D.

A patient in the alcoholic ward of the Kings County Hospital was transferred to the medical ward suffering from acute lobar pneumonia. He was extremely delirious and had to be kept in bed under restraint. He took his last nourishment in the evening about 12 o'clock. From that time on he ate nothing until 6 in the morning, at which time he died. He never vomited after 6 in the afternoon, and I presume at that time the rupture occured.

At the autopsy I looked into the left pleural cavity and found coffee-ground material, and I obtained the same from the stomach; I then pulled up the lung and found above the diaphragm a linear rupture about 3 centimeters in length. This had ragged edges and on examining the rest of the esophagus I could find no pathological changes to account for the rupture.

I believe about 75 cases of spontaneous rupture have been recorded, generally from fatty degeneration in alcoholic subjects. They can occur in alcoholic subjects as well as other subjects during severe retching spells. The symptoms are sudden giving way and extreme pain, and at this time the patient may die, or will surely die in twelve hours.

Kings County Hospital.

Foreign Bodies in the Stomach; Gastrotomy; Specimens; Illustration.

George G. Hopkins, A.M., M.D.

On the 16th of December last a man was brought into my service at St. John's suffering from excessive pain in the abdominal region. He had the history of having been a "freak" at one of the cheap shows in New York and was in the habit of swallowing articles passed up by the people. According to the history given me, in September he accidentally, while singing a topical song involving the throwing of a small mirror on the stage, swallowed the small piece of metal polished to look like a looking-glass. It did him no harm and he was led to swallow other articles. He said he had swallowed 80 pins without trouble.

The first night he swallowed 20 pins and the next night he swallowed 80, and his regular evening performance, except Sundays and eight other days between the 1st of October and the 16th of December was to swallow over 80 pins of an evening, and a lot of hair-pins and long wire nails, most of which passed through him without doing him any harm.

On December 16th he swallowed a window chain, which measures over four feet. He was in the habit of swallowing the chain and drawing it back by a string, but this night it slipped away from him and in a few minutes he began to vomit. It then began to trouble him. I hardly credited all the stories he told me of the articles he had swallowed, but I had him watched several days and I recovered from the feces two horseshoe nails, one wire nail, and 19 ordinary pins. Hoping to get some more of his intestinal hardware, I had him eat first bread and crackers, and then gave cathartics, hoping to recover other articles. Nothing passed after that, however, and after getting the articles mentioned I began to believe his story.

Two X-ray plates disclosed in the right region of his abdomen, lower than where the stomach ought to be, a large round mass. He was then begging me all the time to operate upon him, and was in so much pain he had to be kept under morphine to keep easy.

On the 3d of January I opened the stomach and it contained 129 pins, 6 hair-pins, two horseshoe nails, 12 2½-inch wire nails, 2 door-keys, 3 chains, and a large ring, as shown in the accompanying illustration.

The man made a perfectly good recovery and was discharged three weeks after the operation. He says he will not swallow any more truck, but will spend his time selling pictures of the cut my knife inflicted on his stomach.

350 Washington Avenue.

DISCUSSION.

Dr. de Forest reported that the object lesson concerning the limitations of the human digestive tract did not appear to have been productive of permanent benefit so far as Dr. Hopkins' patient was concerned. Early in August of this year this nineteen-year-old youth, who is known among his friends as "the human ostrich," was taken to St. Catharine's Hospital in what appeared to be a dying condition. He said that, in a saloon where he had been giving an entertainment in legerdemain, some of the young men in the audience had recognized him and, after having subscribed 55 cents as a prophylactic remedy, had seized him and forced him to swallow two wire nails, four inches long, an ordinary nail, and a piece of bone two inches long.

Within a short time he was seized with violent abdominal pains, was taken home, a policeman summoned, and then an ambulance, which conveyed him to the hospital. There the former history of the case was known and another skiagraph was taken. Several masses apparently of metallic character were disclosed at various localities along the intestinal canal. His pain subsided, he refused further operation, and after a few days left the hospital apparently well.

ntestinal Perforations Due to Excessive Use of Irritant Cathartics; Specimens; Autopsy.

Henry P. de Forest, M.S., M.D.

I have to report an interesting and unusual case this evening, although the history, unfortunately, is not as complete as I would like to have it.

A young woman was admitted to the Methodist Episcopal Hospital a week ago with the history of having had an abortion produced by some one, whose name we will not mention. She was evidently *in extremis;* had been suffering from intestinal obstruction for several days; had been given large quantities of all sorts of cathartics, among which were several quarter-pound doses of Epsom salts. Just what else had been given the woman was unable to state. She lived about twelve hours after admission and died.

The autopsy revealed a very remarkable condition of things.

The genitalia shows an intense congestion of the vagina even now, at the end of a week in formaline. The tubes were both distended with pus and in Douglas' cul-de-sac was an abscess cavity containing a teacupful of pus. Strangely enough, there was no pus in the general peritoneal cavity. The adhesions, which were extremely thick and firm, had effectually walled off the abscess cavity from the general abdominal cavity, and had it not been for the condition which I shall soon show, the probabilities are that drainage might have effected a cure.

All of the organs in the body show the same acute congestive appearance that occurs as a result of certain of the mineral poisons, such as corrosive sublimate. The *kidneys* on section look in color like a piece of raw beef, and even yet a little pressure will cause bright-red blood to exude. The *spleen, liver,* and *lungs* were in the same condition.

In the *peritoneal cavity* was a considerable quantity of free watery fecal matter.

The *small intestine* was moderately distended, but the *large intestine* was enormously distended. In the lower part of the large intestine close to the sigmoid flexure, there had been an angulation, probably due to adhesions and brides resulting from the retro-uterine abscess, and accompanied by a moderate degree of intestinal obstruction.

Just what cathartics had been given besides Epsom salts I do not attempt to say, but the result of the cathartics is clearly apparent. There is an opening through the gut into which my hand can readily be passed. That was the principal point at which the movement of the bowels occurred. Other openings—an enormous opening just at the head of the cecum, and smaller ones—are evident. The entire mucous membrane of the cecum and ascending colon is necrotic; in many places the mucosa is entirely gone; in others the muscular layer is entirely gone, and in fifteen or twenty places, as far as the hepatic flexure, there are perforations passing entirely through the coats of the gut. Strangely enough, these perforations were confined to the large intestine; the small intestine was not involved, neither was the stomach. The transverse colon shows no such disturbance of the mucous membrane, but passing down to the sigmoid flexure there again we come to a similar condition, and thirty or forty perforations, varying in size from a pin-point to the size of a lead-pencil, passing through all the coats of the gut in that locality.

I am obliged to believe that the immediate cause of death was due to the very energetic measures taken to have the bowels move; though, of course, the septic trouble, the result of the criminal abortion, and infection might also ultimately have caused death, had not Nature walled off the abscess from the general peritoneal cavity. The abdominal cavity was far more distended than at the end of normal pregnancy.

I must confess, gentlemen, I have never seen a case like this. The history is very meager. The doctor in the case, for obvious reasons, did not tell all he knew about the case, and we have to rely upon the statements made by the woman immediately before her death. The entire lower bowel was stopped. The laxatives which had been given went through the entire bowel and accumulated in the large intestine, and about a foot up the ileum. If she had lived long enough I suppose more would have been given and the ileum more extensively involved. I do not know what drugs were given, but it is certain that this condition is due to some chemical irritant, and the patient herself knew that quarter-pound doses of Epsom salts were given. It is not at all impossible that repeated quarter-pounds doses of Epsom salts, which remain in the bowel long enough, might in themselves be the cause of the lesion.

369 Hancock Street.

The 415th Stated Meeting, Thursday, June 14, 1900.
(The Thirty-first Annual Meeting.)

The President's Address.

Upon the occasion of the installation of the Pathological Society in the Library Building of the Medical Society of the County of Kings.

Charles C. Henry, M.D.

To-night brings to a close another year in the life of this Society, and I wish at this time to express my sincere thanks to our members for the generous support given me as your presiding officer.

The year now ended is an eventful year, and one that marks a period in the history of this Society. With this year a century ends, and another begins. With this meeting, the work of the Society for the year ends, and another year's work begins.

This meeting, too, will be a memorable one, because it is the first one held by this Society in this new edifice, its permanent home for the future, and which is dedicated to medical literature, lore, and science. For many reasons, then, a cycle in the history of the Brooklyn Pathological Society ends to-night.

It is my privilege to offer you my hearty congratulations, because to-night you are installed in this magnificent and well-appointed edifice, with its many conveniences for carrying on your work. You now have direct access to a library of 25,000 medical books, together with numerous journals and magazines. In this beautiful and well-appointed room provision has been made for giving lantern exhibitions; and repository for pathological specimens has been provided, so that access to them may be had at all times for reference and study. The advantages thus offered are of incalculable value to us, as individuals and as a Society.

The work heretofore accomplished by you, though done under many disadvantages, owing to existing circumstances, has been highly creditable. Henceforth, under the present conditions, it should be carried on with increased interest and energy; surely these surroundings are to be incentive enough to insure such action, and will doubtless result in widespread influence and blessing to humanity the world over.

At such a time it is proper to review, as a matter of record, the history of this Society; though merely in outline, since Dr. William Schroeder has written a history, published in the BROOKLYN MEDICAL JOURNAL, November, 1898, covering the period from its birth until 1897.

This Society was organized March 22, 1870, with eleven well-known physicians present. For several years it was without a president, being ruled by a chairman, who was elected at each meeting. In 1876 Charles H. Giberson was elected president, and served one year. His successors were:

Frank Warren Rockwell, M.D	1877-8-9
Arthur Mathewson, M.D	1880
William Wallace, M.D	1881-2
John N. Freeman, M.D	1883
Benamin Frank Westbrook, M.D	1884-5-6
Joseph Hill Hunt, M.D	1887-8
John Cargill Shaw, M.D	1889-90
Ezra Herbert Wilson, M.D	1891
Joshua Marsden Van Cott, Jr., M.D	1892-3
William Nathan Belcher, M.D	1894
Francis H. Stuart, M.D	1895
Frederic Joseph Shoop, M.D	1896
James Peter Warbasse, M.D	1897-8
John E. Sheppard, M.D	1898-99
Charles Cincinnatus Henry, M.D	1899-1900

Although for years this Society labored under many disadvantages, it never swerved from its purpose of carrying on its work with an earnestness that was highly commendable.

It, however, never developed so much general interest as has recently been manifested. This increased interest is largely the result of the Section plan, devised by the fertile brain of your Secretary, Dr. de Forest, and wisely adopted by you. This action took place during the year ending January, 1897. Dr. Warbasse presiding. In order to hold the meetings of the Sections in consecutive order, the annual meeting was changed from

January to June, and Dr. Warbasse's term of office was extended to serve from January to June, 1897.

This system of Sections has enlisted active individual participation, and has developed a spirit of enthusiasm that has resulted in the presentation of so much, and such good, material that sometimes it has been impossible to give them the consideration they merited; especially so has this been the case this year.

Because of the great quantity of material presented it was necessary to group anatomically many specimens, in order to save time in the discussions. Meetings have been well attended, and the discussions replete and instructive.

This being so in the past, may we not expect that, with an increasing membership and the advantages to be had here, essays and specimens will multiply to such an extent that it may become necessary to adopt a plan by which they can be given the consideration due them.

While to the Secretary belongs the credit of introducing the system of Sections, we must not overlook the fact that the various Section Chairmen are entitled to a large measure of credit as well, and should have our hearty thanks for their efforts to procure the hearty co-operation of each group of members. The recommendation that each Chairman of Section shall preside during the scientific part of his meeting meets with my hearty approval.

That the medical profession might have the benefit of its proceedings, this Society decided to publish them in full in the BROOKLYN MEDICAL JOURNAL. This was done this year, with much benefit, not only to our members but to the profession at large. It is desirable that this shall continue to be done. The report of the Treasurer, however, shows that the financial condition is such that the Society is unable to bear the expense, and unless we can retrench in the cost of publishing, or procure more funds, it will have to be abandoned. I trust some arrangement can be made that will secure its continuance.

56 Clark Street.

Secretary's Report for the Year Ending June 14, 1900.

For the first time in many years the work of the Brooklyn Pathological Society has been published promptly and continuously in the BROOKLYN MEDICAL JOURNAL. The proceedings of the eight scientific meetings of the year have been distributed in such a manner as to appear in their appropriate section of the JOURNAL in each of the twelve issues of that publication.

Of our active members, fifty-two have contributed original material at our meetings and fifty have taken part in the discussions. When this is compared with the fact that four years ago there were but twelve contributors and fifteen who participated in the discussion, the improvement becomes more apparent.

A summary of the work done is as follows:

Summary of Meetings of the Pathological Society, 1899-1900.

407th meeting: October 12, 1899; Raymond Clark, Chairman. Papers, 2; patients, 0; histories, 1; specimens, 3; slides, 1; autopsies, 1; illustrations, 0.

408th meeting: November 9, 1899; Edgar A. Day, Chairman. Papers, 11; patients, 1; histories, 3; specimens, 10; slides, 1; autopsies, 1; illustrations, 11.

409th meeting: December 14, 1899; Walter C. Wood, Chairman. Papers, 3; Patients, 1; histories, 5; specimens, 14; slides, 2; autopsies, 1; illustrations, 7.

410th meeting, January 11, 1900; James P. Warbasse, Chairman. Papers, 3; patients, 0; histories, 4; specimens, 5; slides, 0; autopsies, 0; illustrations, 4.

411th meeting: February 8, 1900; Willard G. Reynolds, Chairman. Papers, 5; patients, 0; histories, 4; specimens, 37; slides, 6; autopsies, 0; illustrations, 1.

412th meeting: March 8, 1900; Henry A. Fairbairn, chairman. Papers, 2; patients, 0; histories, 9; specimens, 9; slides, 0; autopsies, 0; illustrations, 2.

413th meeting: April 12, 1900; Algernon T. Bristow, Chairman. Papers, 2; patients, 2; histories, 3; specimens, 19; slides, 2; autopsies, 0; illustrations, 1.

414th meeting: May 10, 1900; Ezra H. Wilson, Chairman. Papers, 5; patients, 0; histories, 6; specimens, 5; slides, 2; autopsies, 1; illustrations, 2.

415th meeting: June 14, 1900; Charles C. Henry, Chairman. (Thirty-first annual meeting.)

Summary of the material presented before the Society: Papers, 33; patients, 4; histories, 35; specimens, 102; slides, 14; autopsies, 4; illustrations, 28.

Besides these published records there have remained unpublished for various reasons the following: Papers, 3; patients, 1; histories, 4; specimens, 18; slides, 18; autopsies, 3; illustrations, 10.

The aggregate work thus presented before the Society during this year, therefore, is greatly in excess of that presented during the same period during any period of the Society's existence.

For further details as to the work of the Society the index which follows will furnish the required information.

HENRY P. DE FOREST,
Secretary.

369 Hancock Street.

Election of Officers.

For the year 1900-1901 the following officers were elected:

Dr. Henry P. de Forest	President
Dr. Archibald Murray	Vice-President
Dr. Henry G. Webster	Secretary
Dr. Willard G. Reynolds	Treasurer
Dr. Joshua M. Van Cott, Jr	Librarian

Index to Proceedings of the Brooklyn Pathological Society. 1899–1900.

Adenoma of the Uterus. J. M. Van Cott, Jr. 43
Ager, Louis C. Typhoidal Ulcers of the Intestines 324
Alderton, Henry A. Epithelioma of the Auricle 136
“ “ “ Hyperostosis of the Ossicles 569
Aneurism: of the Aorta. W. A. Payne 49
of the Aorta. W. A. Payne 139
Aorta: Aneurism. W. A. Payne 49
Aneurism. W. A. Payne 139
Appendix, Perforative Appendicitis. R. S. Fowler 324
Auricle, Epithelioma of. H. A. Alderton 132
Axillary Glands; Tubercular Adenitis. F. J. Shoop 325

Babcock, E. Howard, D.D.S. Common Communion Cup, As Viewed by the Dentist 216
Bacteriology, of the Conjunctival Sac. P. C. Jameson 889
Bacillus Aerogenes Capsulatus. A. Murray 898
Diplococcus Intracellularis Meningitidis. J. B. Thomas. 141
Examination of Public Water Supply. E. H. Wilson... 974
Bogart, Arthur H. Littré's Hernia 137
Bogart, J. Bion. Osteo-Sarcoma of the Humerus 650
Braislin, William C. Empyema of the Frontal Sinus 395
“ “ “ Necrosis of the Ossicles 569
Brides and Volvulus Causing Intestinal Obstruction. A. T. Bristow... 318
Brinsmade, William B. Non-malignant Tumors of the Breast 899
Bristow, Algernon T. Carcinoma of the Larynx 567
“ “ “ Intestinal Obstruction Due to Brides and Volvulus 318
“ “ “ Sarcoma of the Nasal Mucous Membrane.... 814
Brush, George W. The Pathology of the Common Communion Cup; Its Relation to Tubercular Infection 214
Bunn, Albert C., D.D. The Common Communion Cup; as Viewed by the Minister 233

Calculi: Biliary; Removed from the Liver. E. A. Day 498
“ Biliary. R. S. Fowler 496
“ Renal; Passed Through the Urethra. J. R. Stivers 496
Carcinoma: of Breast in the Male. J. E. Herman 310
“ of the Cecum. G. R. Fowler 136
“ of the Esophagus. F. W. Wunderlich 50
“ of the Larynx. A. T. Bristow 467
“ of the Liver. W. A. Payne 325
“ of the Lungs. W. A. Payne 325

Cecum, Carcinoma of. G. R. Fowler.................................. 136
Clark, Raymond. Fibroma of the Uterus.............................. 54
Clarke, Stanley G. Foreign Bodies in the Esophagus................ 987
Clavicle, Sarcoma of. F. W. Wunderlich............................ 649
Clayland, John M. Landry's Paralysis.............................. 313
Coley, William B. The Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus....... 637
Committees for 1899-1900.. 39
Common Communion Cup, The Pathology of
    As Viewed by the General Practitioner. E. A. Day.............. 209
    “ “ “ “ Aurist. J. E. Sheppard.............................. 220
    “ “ “ “ Bacteriologist. H. P. de Forest...................... 323
    “ “ “ “ Dentist. E. H. Babcock, D.D.S......................... 216
    “ “ “ “ Minister. A. C. Bunn, D.D............................. 233
    “ “ “ “ Minister. R. J. Kent, D.D............................. 230
    “ “ “ “ Surgeon. J. P. Warbasse............................... 226
    “ “ “ “ Syphilographer. J. McF. Winfield...................... 222
    Its Relation to Tubercular Infection. G. W. Brush............. 214
Cystoma of the Ovary. F. W. Wunderlich............................ 732

Day, Edgar A. Biliary Calculus Removed from the Liver............. 498
“ “ “ The Pathology of the Common Communion Cup as Viewed by the General Practitioner.............. 209
de Forest, Henry P. The Pathology of the Common Communion Cup as Viewed by the Bacteriologist............ 223
“ “ “ The Death of Alexander J. C. Skene........... 729
“ “ “ Intestinal Perforation Due to the Excessive Use of Irritant Cathartics.................. 992
“ “ “ Pseudo-Leukemia or Hodgkin's Disease....... 477
“ “ “ Secretary's Report, 1898-1899................. 57
“ “ “ Secretary's Report, 1899-1900................ 997

Delatour, Henry B. Dermoid Cyst of Ovary.......................... 494
Dermoid, of Ovary. H. B. Delatour................................. 494
Diplococcus Intracellularis Meningitidis. J. B. Thomas............ 141
Double Suppurative Mastitis in Primipara at the Sixth Month of Gestation. G. A. Williams................................ 902
Discussion.
    Alderton, H. A.. 136
    Babcock, E. H... 228
    Bartley, E. H... 56
    Braislin, W. C.. 403
    Briggs, B. F.. 493
    Brinsmade, W. B...................................649, 903, 904
    Bristow, A.T.............................323, 650, 654, 736, 822
    Browning, W... 979
    Burge, J. H. H....................................229, 902, 904
    Cardwell, J. C.. 411
    Clayland, J. M.. 317
    Coley, W. B... 655

Cox, C. N. 812
Day, E. A. 222
de Forest, H. P. 55, 312, 401, 492, 494, 496, 732, 736, 821, 980, 989, 991
Delatour, H. B. 140, 310
Dudley, W. F. 815, 986
Fowler, G. R. 568, 650
Fowler, R. S. 400, 902
Hancock, J. C. 897
Haynes, W. H. 144, 315
Henry, C. C. 491, 898, 980, 989
Herman, J. E. 312, 410, 495
Ingalls, J. W. 409, 410, 411
Jewett, C. 45, 47, 53, 55, 57
Laing, W. W. 228
Lutz, S. H. 229
Maddren, W. 48, 650
Matheson, S. 728
McNaughton, G. 46, 55
Miller, L. H. 403
Murray, A. 819
Paine, A. R. 312
Payne, W. A. 141, 320
Reynolds, W. G. 400, 815
Robertson, V. A. 979, 989
Sheppard, J. E. 135, 571
Sherwood, W. A. 989
Shoop, F. J. 732
Sullivan, J. D. 316
Thomas, J. B. 144
Van Cott, Jr., J. M. 47, 48, 52, 817, 819, 985
Warbasse, J. P. 140, 820
Webster, H. G. 53, 493
Williams, G. A. 736, 904
Wilson, E. H. 979, 980
Winfield, J. McF. 136, 311
Wood, J. S. 898
Wood, W. C. 323, 402
Wright, J. 402, 816, 819, 986
Dudley, William F. Neoplasm of the Velum Palati 981
Dunning, Z. F. Ectopic Gestation, Tubal 736

Ear, Epithelioma of the Auricle. H. A. Alderton 132
" Hyperostosis of the Ossicles. H. A. Alderton 569
" Necrosis of the Ossicles. W. C. Braislin 569
" Sarcoma of the Mastoid. S. A. Lutz 129
Ectopic Gestation, Cornual. W. Waterworth 734
" " Tubal. Z. F. Dunning 736
Embryo, Human, 1/8 Inch Long. J. E. Herman 733
Empyema of the Frontal Sinus. W. C. Braislin 395

Epithelioma, of the Auricle. H. A. Alderton........................ 132
“ “ “ Thumb. H. G. Webster........................ 904
Esophagus, Adeno-Carcinoma of. F. W. Wunderlich................ 650
“ Foreign Bodies in. S. G. Clarke........................ 987
“ Spontaneous Rupture of. W. A. Payne.................. 990
Eye, Bacteriology of the Conjunctival Sac. P. C. Jameson........... 889
“ Orbital Cellulitis. H. N. Hoople................................. 824
“ Quiet Iritis. J. W. Ingalls................................. 823
“ Pathology of Glaucoma. E. W. Wright........................ 404
“ Traumatic Paralysis of Occular Accommodation. J. C. Hancock 410

Foreign Bodies, In the Esophagus. S. C. Clarke.................... 987
“ “ Removed from the Stomach. G. G. Hopkins......... 990
Fowler, George Ryerson. Carcinoma of the Cecum.................. 136
“ “ “ Operative Treatment of Malignant Disease.. 645
Fowler, Russell S. Contracted Gall Bladder, Biliary Calculi......... 496
“ “ “ Pathology of Hallux Valgus.................... 48
“ “ “ Perforative Appendicitis........................ 324
“ “ “ Round Ulcer of the Stomach.................... 323
Fracture, of the Head of the Humerus. W. A. Payne................ 325
“ “ “ Second Lumbar Vertebra. W. A. Payne............. 325
Frontal Sinus, Empyema. W. C. Braislin........................... 395

Gall Bladder, Contracted, Biliary Calculi. R. S. Fowler.............. 496
Glaucoma, The Pathology of. E. W. Wright........................ 403

Hallux Valgus, Pathology and Radical Cure. R. S. Fowler.......... 48
Hancock, James Cole. Traumatic Paralysis of Occular Accommodation 410
Hematoma, of the Cervix Uteri. G. G. Hopkins.................... 731
“ “ “ Ovary. F. J. Shoop............................. 731
Henry, Charles C. Portrait of.. 39
“ “ “ Placenta Succenturiata........................... 56
“ “ “ President's Address, Thirtieth Annual Meeting.. 40
“ “ “ President's Address, On the Installation of the Society in the Building of the Medical Society of the County of Kings...................... 994
Herman, J. Edward. Carcinoma of the Breast in the Male........... 310
“ “ “ Peculiar Phases of Epidemic Influenza......... 486
“ “ “ Pregnancy, Embryo ⅛ Inch Long............. 733
Hernia, Littré's. A. H. Bogart.................................. 127
“ of the Umbilical Cord. J. A. Polak......................... 52
Hodgkin's Disease. H. P. de Forest............................... 477
“ “ J. D. Sullivan............................... 486
Hoople, Heber N. Nasal Reflex Neuroses.......................... 803
“ “ “ Orbital Cellulitis 824
“ “ “ Tooth from Right Naris......................... 403

Hopkins, George G. Foreign Bodies Removed from the Stomach.... 990
" " " Hematoma of the Cervix.................... 731
" " " Myo-fibroma of the Uterus.................. 730
Humerus, Fracture of the Head, W. A. Payne.................... 325
" Osteo-Sarcoma. J. B. Bogart............................ 650

Illustrations. (29)
Charles C. Henry, M.D., President of the Brooklyn Pathological Society, 1899-1900. Insert.............................. 39
Sarcoma of the Mastoid. Stephen H. Lutz. Insert............. 129
Epithelioma of the Auricle. Henry A. Alderton. Insert......... 132
Diplococcus Intracellularis Meningitidis. Jerome B. Thomas, Jr. Insert.... 209
Individual Communion Cups......211, 213, 215, 219, 223, 227, 233, 233
Carcinoma of the Breast in the Male. J. Edward Herman. Insert. 309
Carcinoma of the Breast in the Male; Photomicrograph of Section. J. Edward Herman 311
Intestinal Obstruction Due to Progressive Intussusception. John D. Sullivan. Insert 318
Intestinal Obstruction, Due to Brides and Volvulus. Algernon T. Bristow. Insert.. 322
Empyema of Frontal Sinus. William C. Braislin. Insert........ 395
Empyema of Frontal Sinus. William C. Braislin............... 398
Rhinolith. Lewis H. Miller.................................. 401
Pseudo-Leukemia or Hodgkin's Disease. Henry P. de Forest. Insert 477
Pseudo-Leukemia or Hodgkin's Disease. Henry P. de Forest.... 481
Renal Calculus, Passed by the Urethra. John R. Stivers, M.D.... 493
Biliary Calculus, Removed from Liver. Edgar A. Day.......... 495
Congenital Absence of the Trachea. William A. Payne.......... 568
Pregnancy Occurring in Connection with Myo-fibromata of the Uterus. Alexander J. C. Skene. Insert.................... 721
Pregnancy Occurring in Connection with Myo-fibromata of the Uterus. Alexander J. C. Skene.......................... 727
Bacilius Aerogenes Capsulatus, Photomicrograph. Archibald Murray. Insert.. 889
Foreign Bodies in the Stomach. George G. Hopkins. Insert..... 973
Foreign Body in the Esophagus. Stanley G. Clarke.............. 988
Importance of Bacterial Examination of Public Water Supplies. E. H. Wilson.... 974
Influenza, Peculiar Phases of. J. E. Herman...................... 486
Ingalls, John. Quiet Iritis.. 823
Intestines, Obstruction due to Brides and Volvulus. A. T. Bristow... 318
" Obstruction Due to Intussusception. J. D. Sullivan... 318
" Perforation Due to Irritant Cathartics. H. P. de Forest 992
" Typhoidal Ulcers of. L. C. Ager................... 324
Intussusception Causing Intestinal Obstruction. J. D. Sullivan....... 318

Jameson, P. Chalmers. Bacteriology of the Conjunctival Sac......... 889

Kent, Robert J. D.D. The Pathology of the Common Communion Cup as Viewed by the Minister........................... 230
Kidneys, Renal Calculus Passed Through the Urethra. J. R. Stivers.. 496

Landry's Paralysis. J. M. Clayland................................. 313
Larynx, Carcinoma of. A. T. Bristow............................... 567
Liver, Biliary Calculi in Substance of the Liver. E. A. Day.......... 498
" Carcinoma of. W. A. Payne............................... 325
" Contracted Gall Bladder with Biliary Calculi. R. S. Fowler... 496
Lungs, Carcinoma of. W. A. Payne................................. 325
Lutz, Stephen H. Sarcoma of the Mastoid.......................... 129

Malignant Disease, Operative Treatment. G. R. Fowler............. 645
Malignant Growths, Of the Throat and Nose. J. Wright............ 563
" " Of the stomach. J. Fuhs....................... 651
Mammary Gland, Carcinoma of. In the Male. J. E. Herman........ 310
" " Non-Malignant Tumors of. W. B. Brinsmade..... 899
" " Suppurative Mastitis in a Primipara at Sixth Month of Gestation. G. A. Williams 902
Management of Pregnancy Occurring in Connection with Myo-fibromata of the Uterus. Alexander J. C. Skene, LL.D........... 722
Mastoid, Sarcoma of. S. H. Lutz................................ 129
Miller, Lewis H. Rhinolith.. 398
Multiple Infection of the Heart and Liver by a Gas-Forming Bacillus. A. Murray 898
Murray, Archibald. Bacillus Aerogenes Capsulatus................. 898
Myo-fibromata, of the Uterus. R. Clark.......................... 54
" of the Uterus. G. B. Hopkins...................... 730
" of the Uterus Complicating Pregnancy. Alexander J. C. Skene 722

Nasal Reflex Neuroses. H. N. Hoople............................. 803
Neoplasm of the Velum Palati. W. F. Dudley....................... 981
Nerves, Landry's Paralysis. J. M. Clayland....................... 313
Non-Malignant Tumors of the Breast. W. B. Brinsmade........... 899
Nose, Nasal Reflexes. H. N. Hoople............................... 803
" Rhinolith. L. A. Miller.................................... 398
" Sarcoma of the Nasal Mucous Membrane. A. T. Bristow...... 814
" Tooth from Right Naris. H. N. Hoople..................... 403

Obituary, Alexander J. C. Skene, M.D., LL.D...................... 729
Officers and Committees, 1899-1900.............................. 39
Officers, 1900-1901 998
Operative Treatment of Malignant Disease. G. R. Fowler........... 645
Orbital Cellulitis. H. N. Hoople................................. 824
Ossicles, Hyperostosis. H. A. Alderton........................... 569
Ossicles, Necrosis of. W. C. Braislin............................. 569

Osteo-Sarcoma of the Humerus. J. B. Bogart........ 650
Ovary, Cystoma with Torsion of Pedicle. F. W. Wunderlich........ 732
" Dermoid Cyst. H. B. Delatour........ 494
" Hematoma. F. J. Shoop........ 731

Pathology of the Common Communion Cup. E. A. Day........ 209
" of Glaucoma. E. W. Wright........ 403
Payne, William A. Aneurism of the Aorta........ 49
" " " Aneurism of the Aorta........ 139
" " " Carcinoma of the Liver........ 325
" " " Carcinoma of the Lungs........ 325
" " " Fracture of the Head of the Humerus........ 325
" " " Fracture of the Second Lumbar Vertebra........ 325
" " " Hyperplasia and Degeneration of the Thyroid Gland........ 323
" " " Rupture of Peritoneum During Labor........ 738
" " " Spontaneous Rupture of the Esophagus........ 990
" " " Trachea, Congenital Absence of........ 568
Peculiar Phases of Influenza Observed in the Present Epidemic. J. E. Herman........ 486
Peritoneum, Rupture During Labor. W. A. Payne........ 738
Placenta Succenturiata. C. C. Henry........ 56
Polak, John O. Hernia of the Umbilical Cord........ 52
Pregnancy, Ectopic, Tubal. Z. F. Dunning........ 736
" Ectopic, Cornual. W. Waterworth........ 734
" Human Embryo, ⅛ Inch Long........ 733
" In Connection with Myo-fibromata of the Uterus, Alexander J. C. Skene........ 722
" Rupture of the Peritoneum During Labor. W. A. Payne.. 738
President's Address, Thirtieth Annual Meeting. C. C. Henry........ 40
President's Address, Installation in New Building. C. C. Henry........ 994
Pseudo-Leukemia or Hodgkin's Disease. H. P. de Forest........ 477
" " " " J. D. Sullivan........ 486

Quiet Iritis. J. W. Ingalls........ 823

Report of Secretary, 1898-1899. H. P. de Forest........ 57
" " 1899-1900. H. P. de Forest........ 997
Rhinolith. L. H. Miller........ 398

Sarcoma, Clavicle. F. W. Wunderlich........ 649
" of the Mastoid. S. H. Lutz........ 130
" of the Nasal Mucous Membrane. A. T. Bristow........ 814
" Treatment of with the Mixed Toxins. W. B. Coley........ 637
Secretary's Report, 1898-1899. H. P. de Forest........ 57
" " 1899-1900. H. P. de Forest........ 996
Sheppard, James E. The Pathology of the Common Communion Cup as Viewed by the Aurist........ 220
Shoop, Frederick J. Hematoma of the Ovary........ 731
" " " Tubercular Adenitis of Axillary Glands........ 325

Skene, Alexander J. C., LL.D. The Management of Pregnancy Occurring in Connection with Myo-fibromata of the Uterus.... 722
Spontaneous Rupture of the Esophagus in Pneumonia. W. A. Payne.. 990
Stivers, John R. Renal Calculus Passed Through Urethra........... 496
Stomach, Foreign Bodies Removed From. G. G. Hopkins........... 990
" Malignant Disease of. J. Fuhs........................... 651
" Round Ulcer of. R. S. Fowler............................ 323
Sullivan, John D. Intestinal Obstruction Due to Intussusception...... 318
" " " Pseudo-Leukemia or Hodgkin's Disease.......... 486

Thomas, Jerome B. Diplococcus Intracellularis Meningitidis......... 141
Throat and Nose, Malignant Growths of. J. Wright................. 563
Thumb, Epithelioma of. H. G. Webster.......................... 904
Thyroid Gland, Hyperplasia and Degeneration. W. A. Payne........ 323
Tooth from the Right Naris. H. N. Hoople........................ 403
Trachea, Congenital Absence of. W. A. Payne...................... 568
Traumatic Paralysis of Occular Accommodation. J. C. Hancock..... 410
Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and of Bacillus Prodigiosus. W. B. Coley.............. 637
Tuberculosis of the Axillary Glands. F. J. Shoop................... 325

Umbilical Cord, Hernia of. J. O. Polak.............................. 52
Uterus, Fibroma of. R. Clark.. 54
" Fibroma Involving Entire Uterine Tissue. G. G. Hopkins... 730
" Hematoma Attached to the Cervix. G. G. Hopkins.......... 731
" Malignant Adenoma. J. M. Van Cott, Jr.................... 43
" Pregnancy Complicated by Myo-fibromata. A. J. C. Skene... 722

Van Cott, Jr., Joshua M. Malignant Adenoma of Uterus............ 43
Velum, Palati, Neoplasms of. William F. Dudley.................... 981
Vertebra, Fracture of the Second Lumbar. W. A. Payne............ 325
Volvulus and Brides Causing Intestinal Obstruction. A. T. Bristow.. 318

Warbasse, James P. The Pathology of the Common Communion Cup as Viewed by the Surgeon 226
Waterworth, William. Ectopic Gestation, Cornual.................. 734
Webster, Henry Goodwin. Epithelioma of the Thumb............... 904
Williams, George A. Suppurative Mastitis in a Primipara at the Sixth Month of Gestation 902
Wilson, Ezra H. Bacteriological Examination of Public Water Supplies 974
Winfield, James McFarlane. The Pathology of the Common Communion Cup as Viewed by the Syphilographer.............. 222
Wright, Jonathan. Malignant Growths of the Throat and Nose...... 563
Wright, Edward W. Pathology of Glaucoma.......................... 403
Wunderlich, Frederick W. Adeno-Sarcoma of Esophagus........... 650
" " " Cystoma of Ovary with Torsion of Pedicle 732
" " " Sarcoma of Clavicle 649